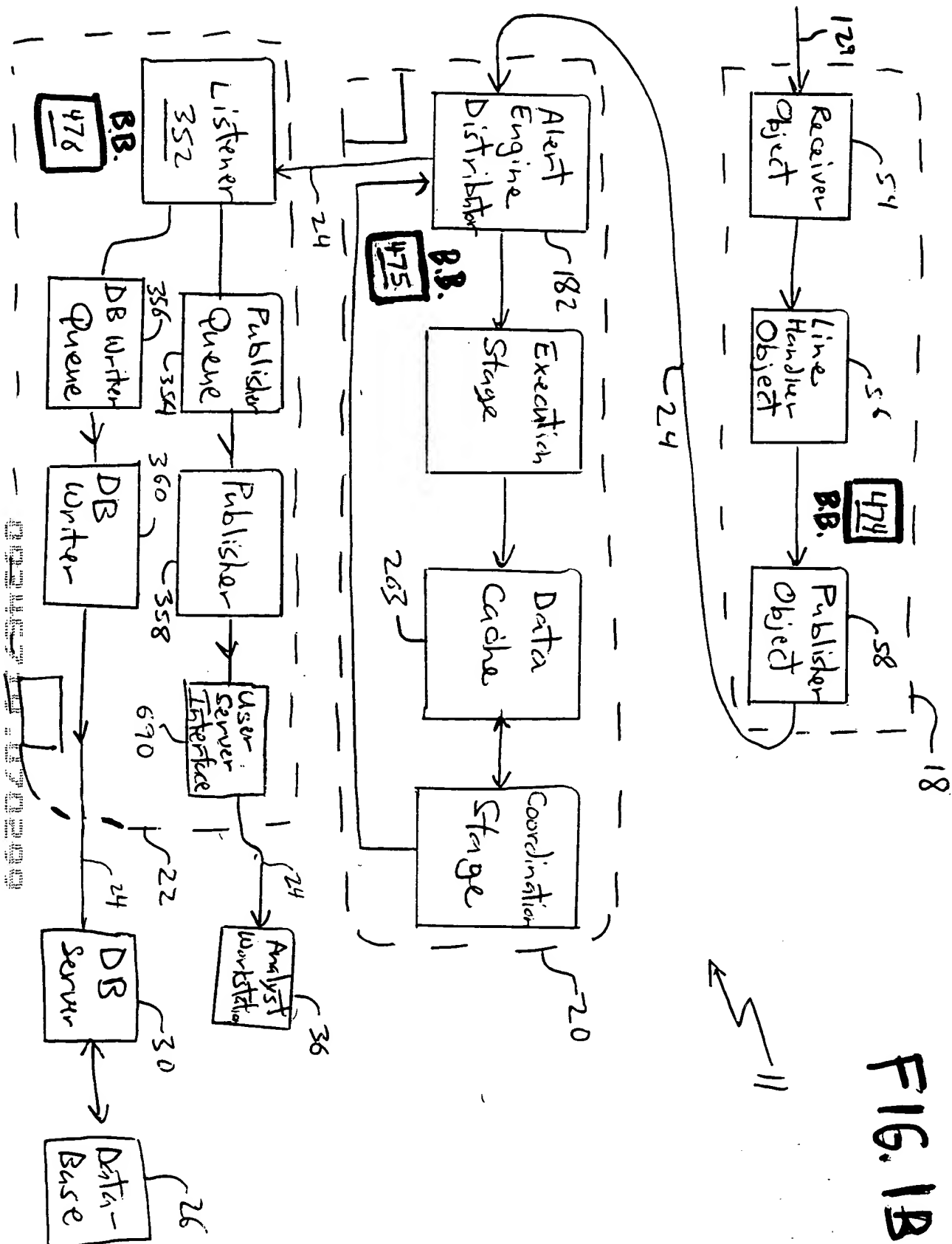


FIG. 1B



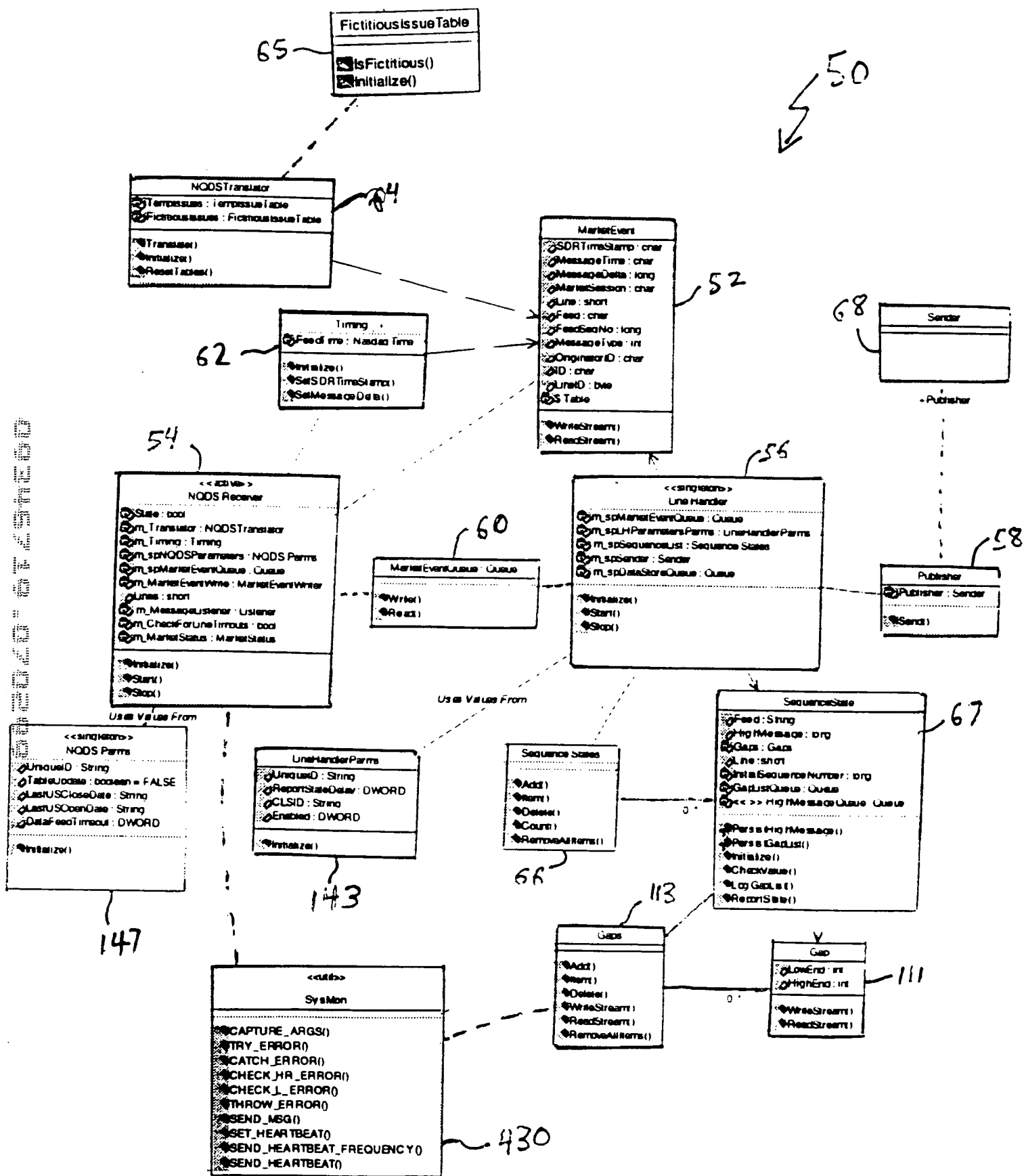


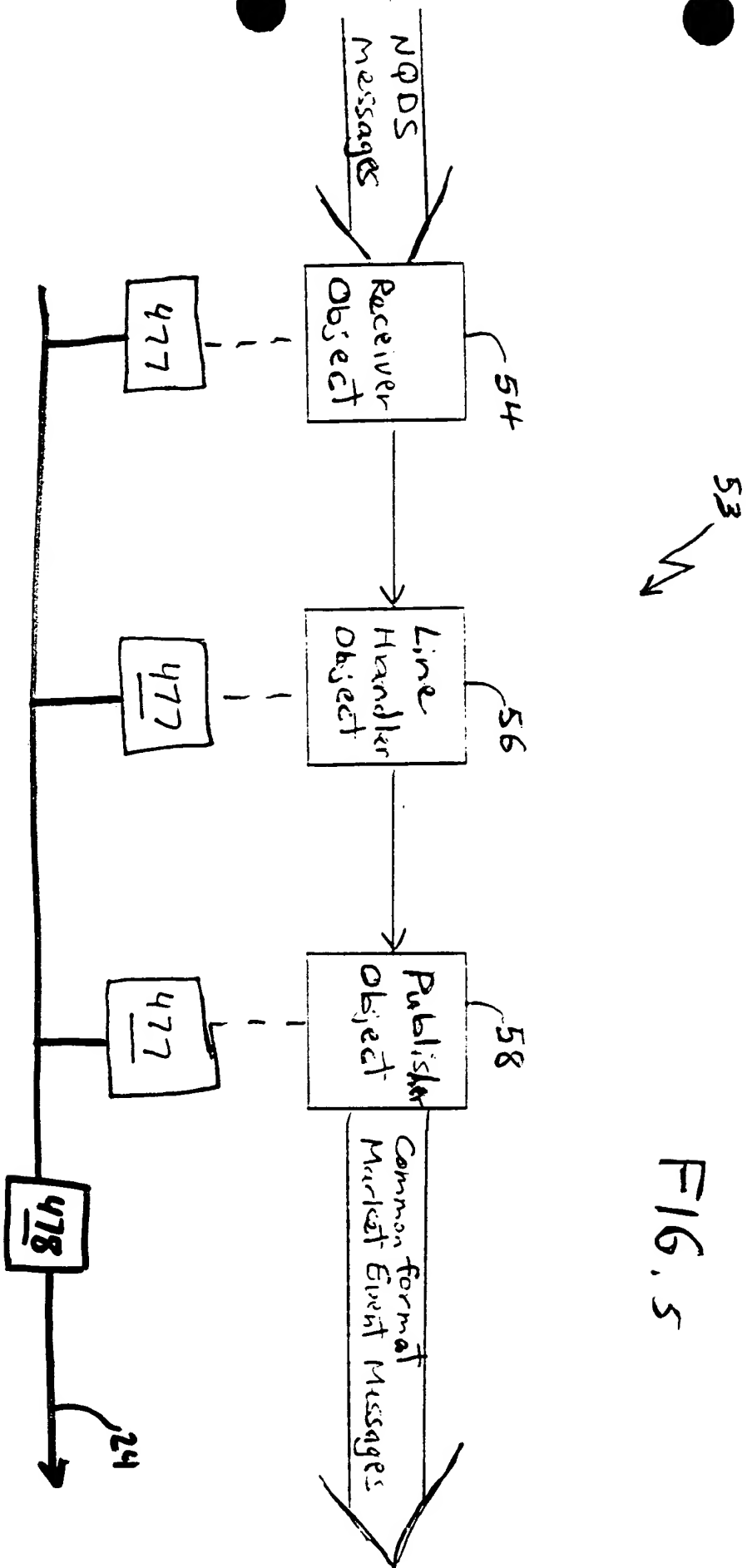
FIG 3

52



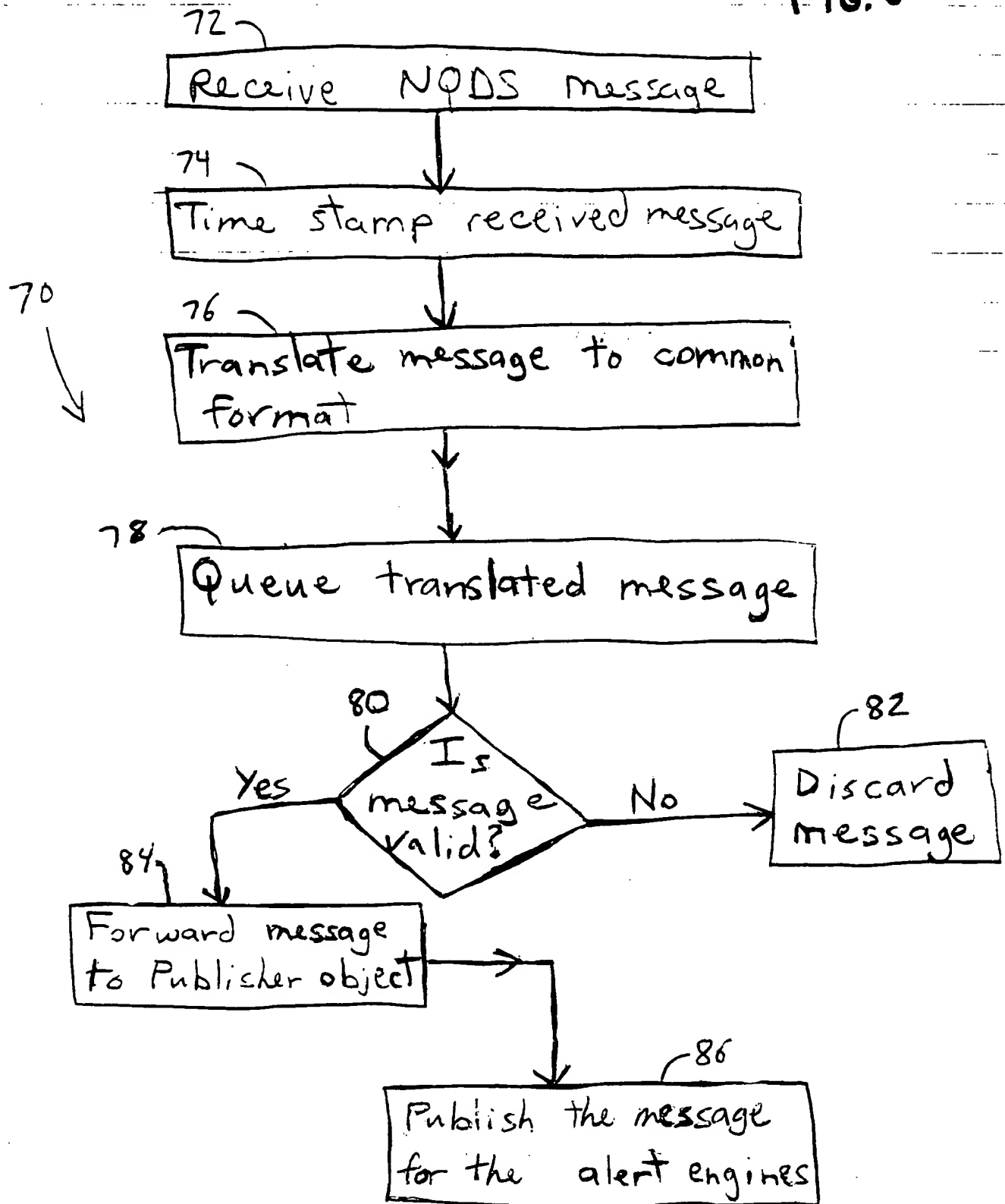
69

FIG. 4



F16.5

FIG. 6



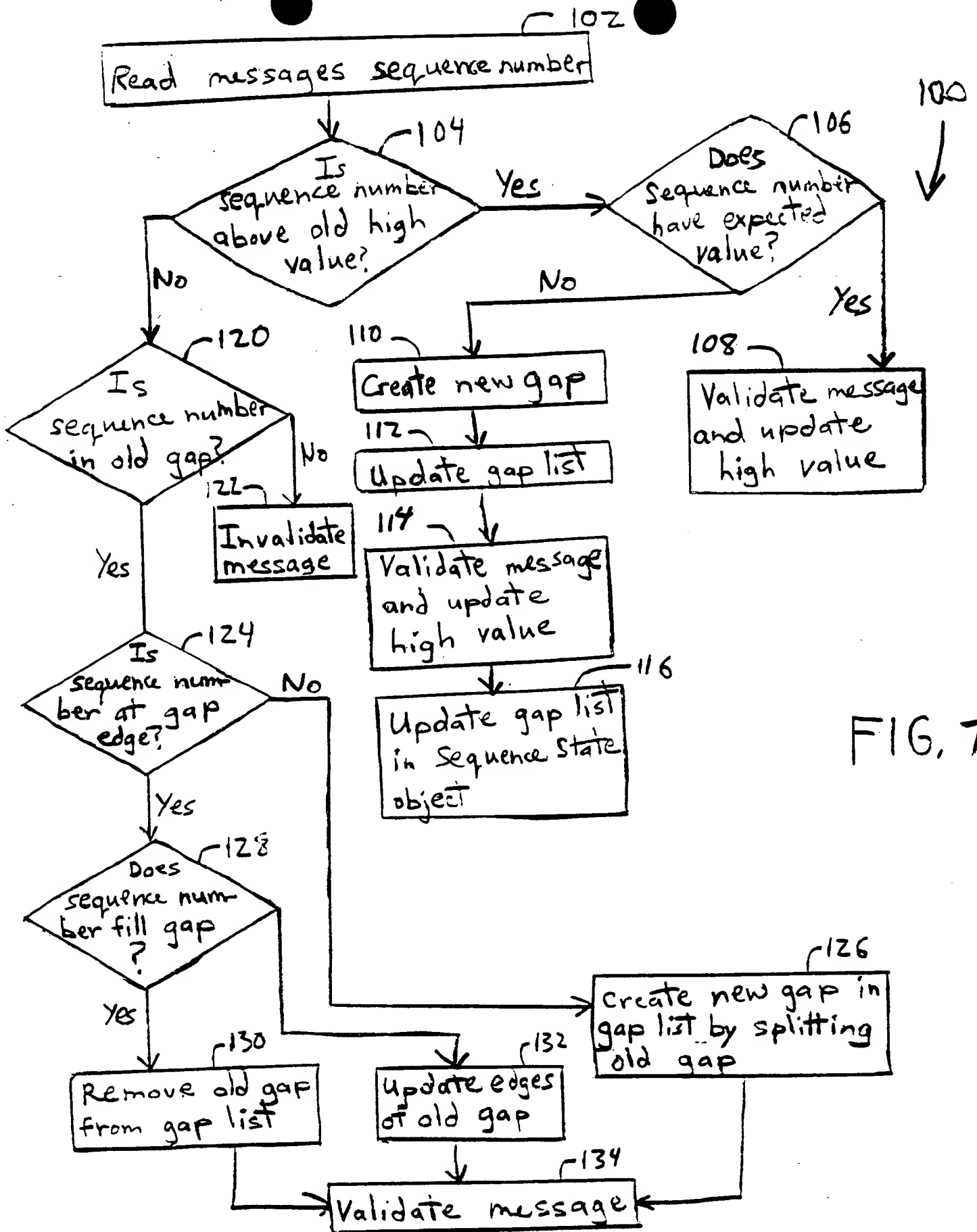
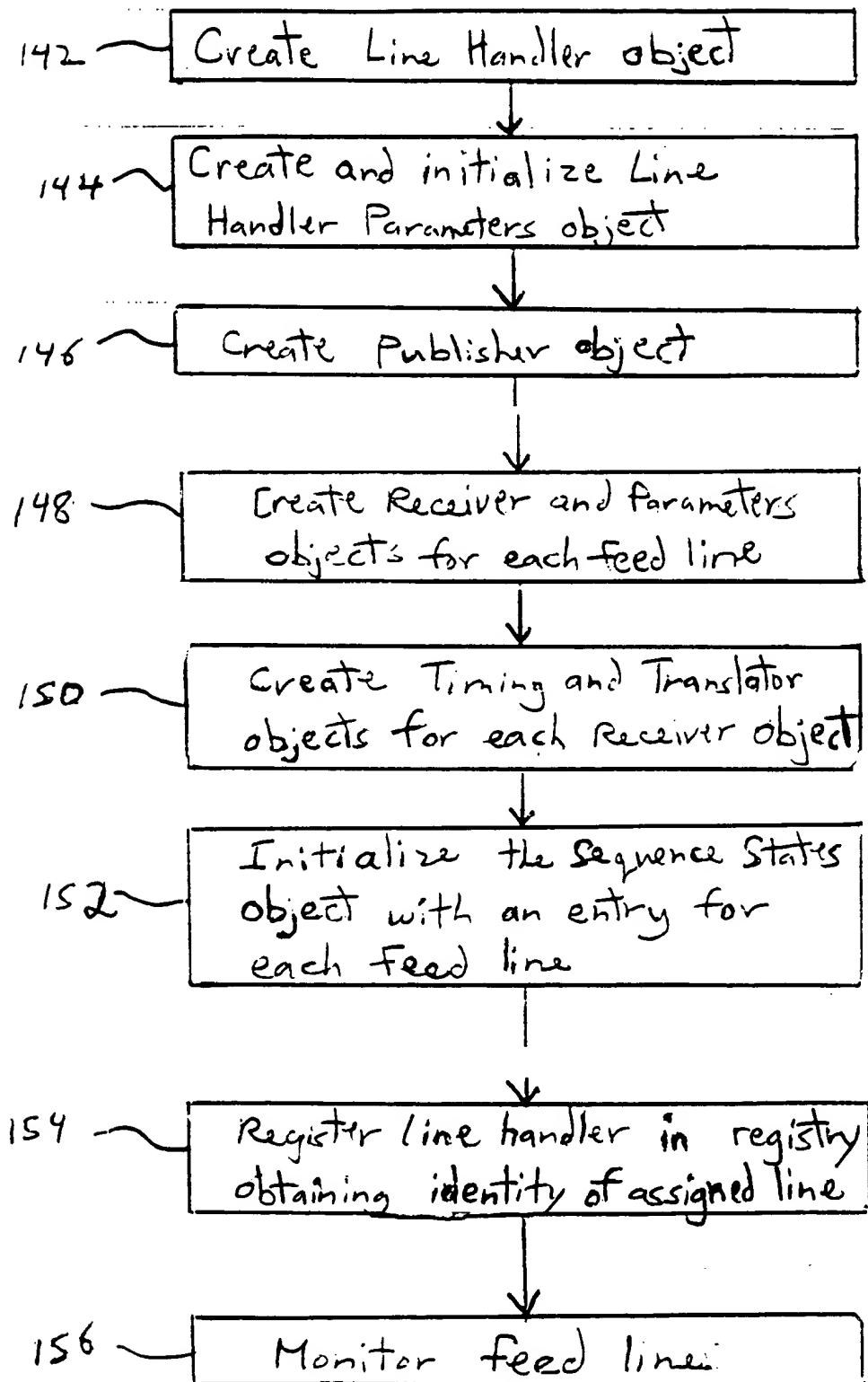


FIG. 7



140
↓

FIG. 8

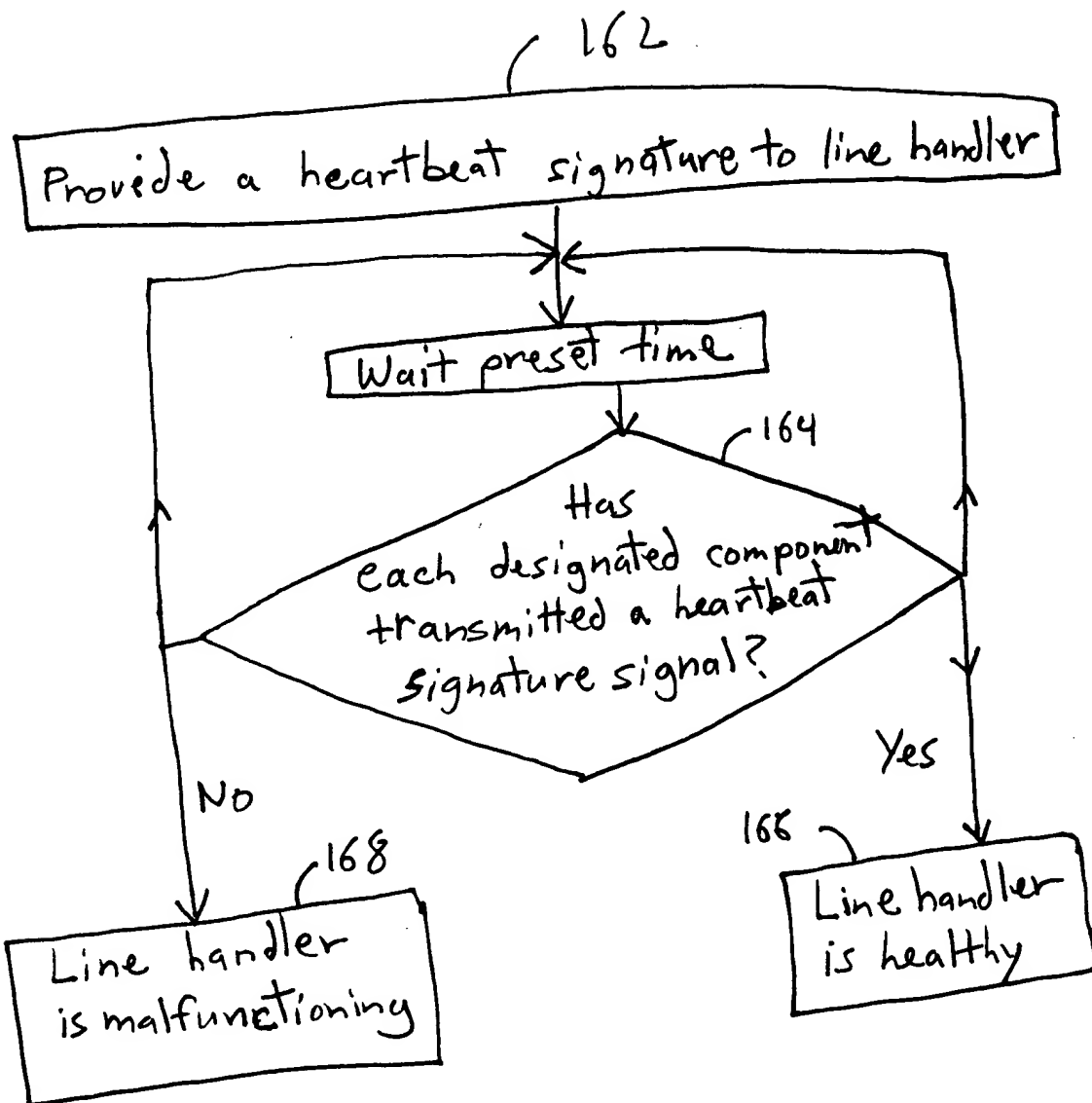


FIG. 9

166

162 ~ Receive market event message

164 ~ Distribute event for parallel processing

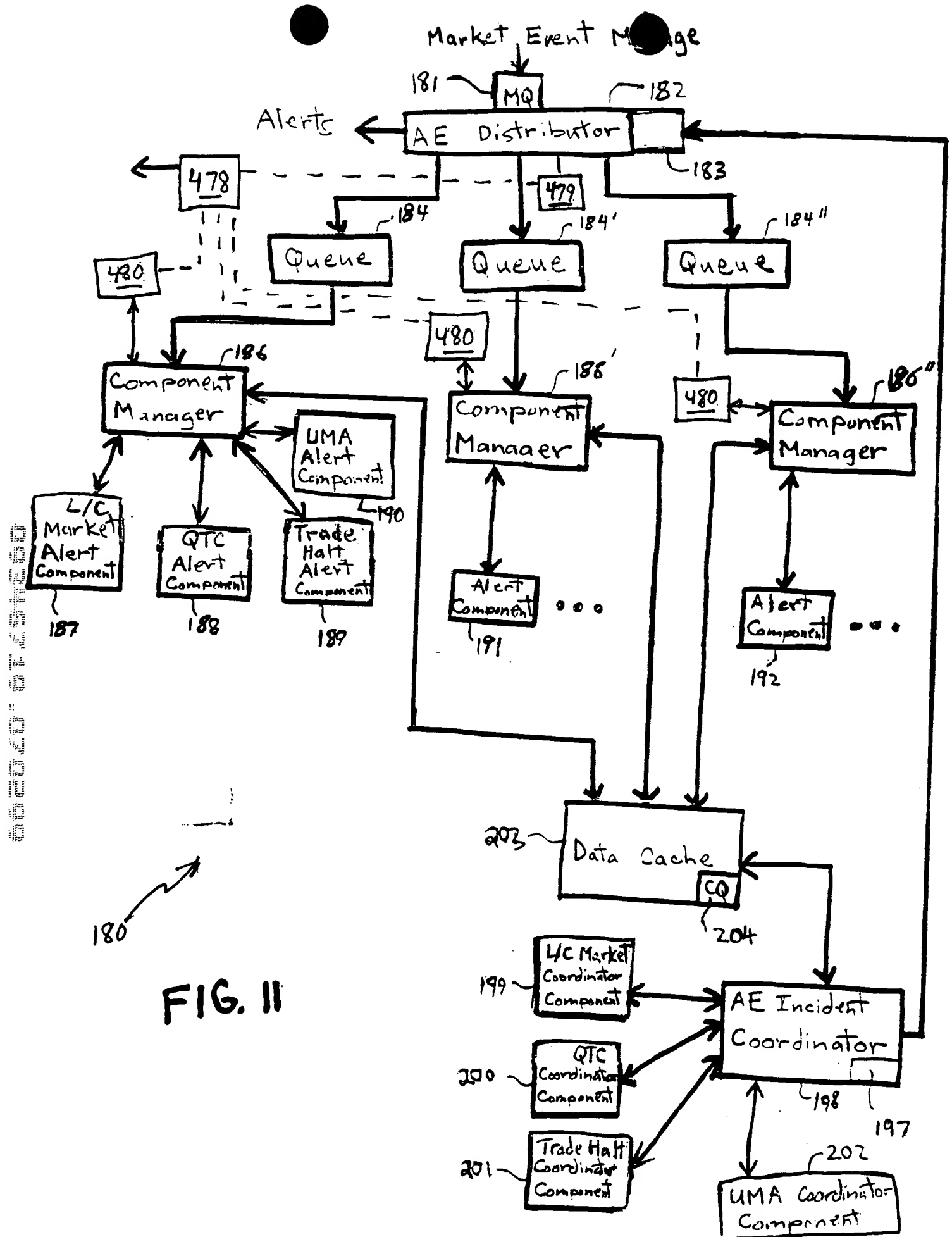
166 ~ Determine whether alerts are detected or resolved

168 ~ Determine whether coordinated analysis is needed

170 ~ Transmit results

160

FIG. 10



Market Event
Messages

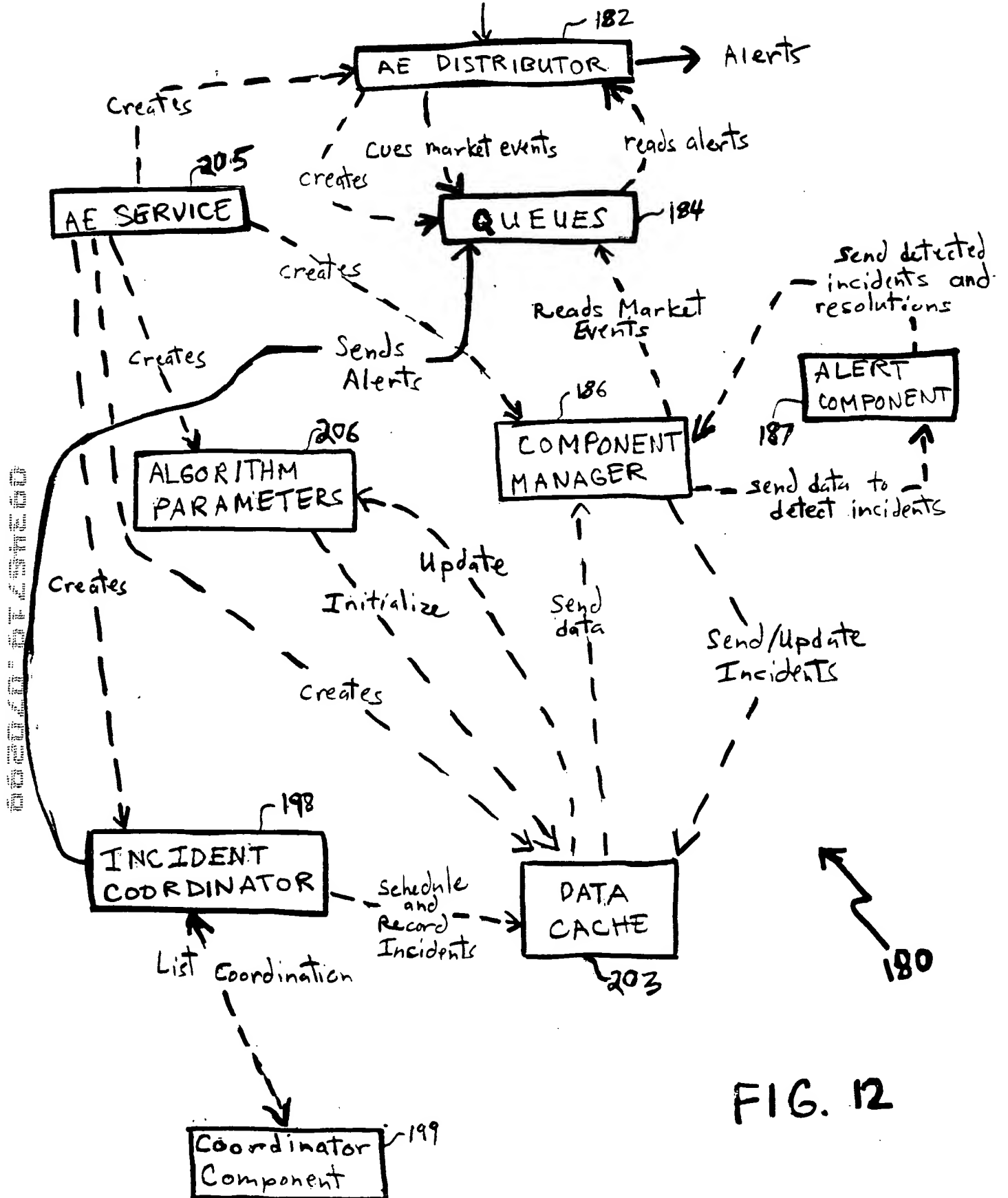


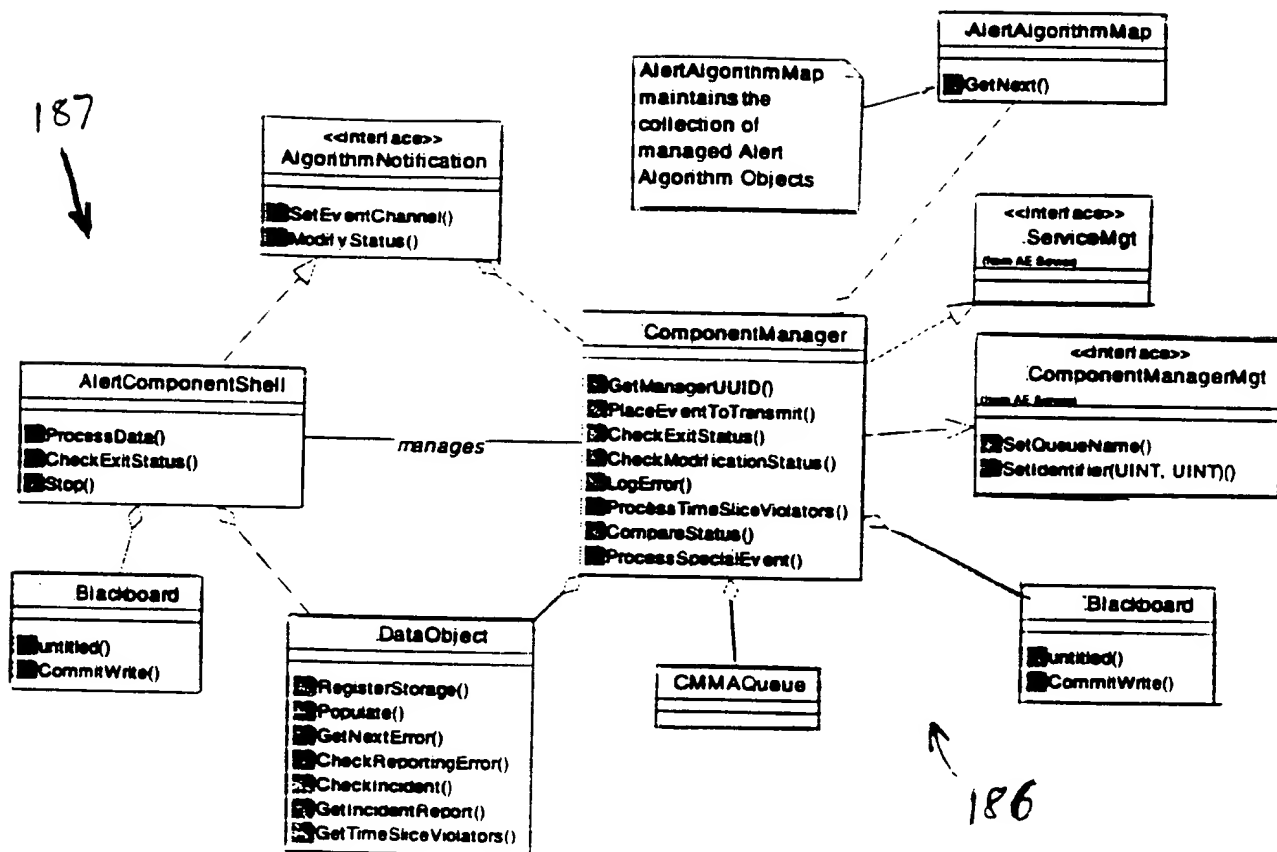
FIG. 12

210



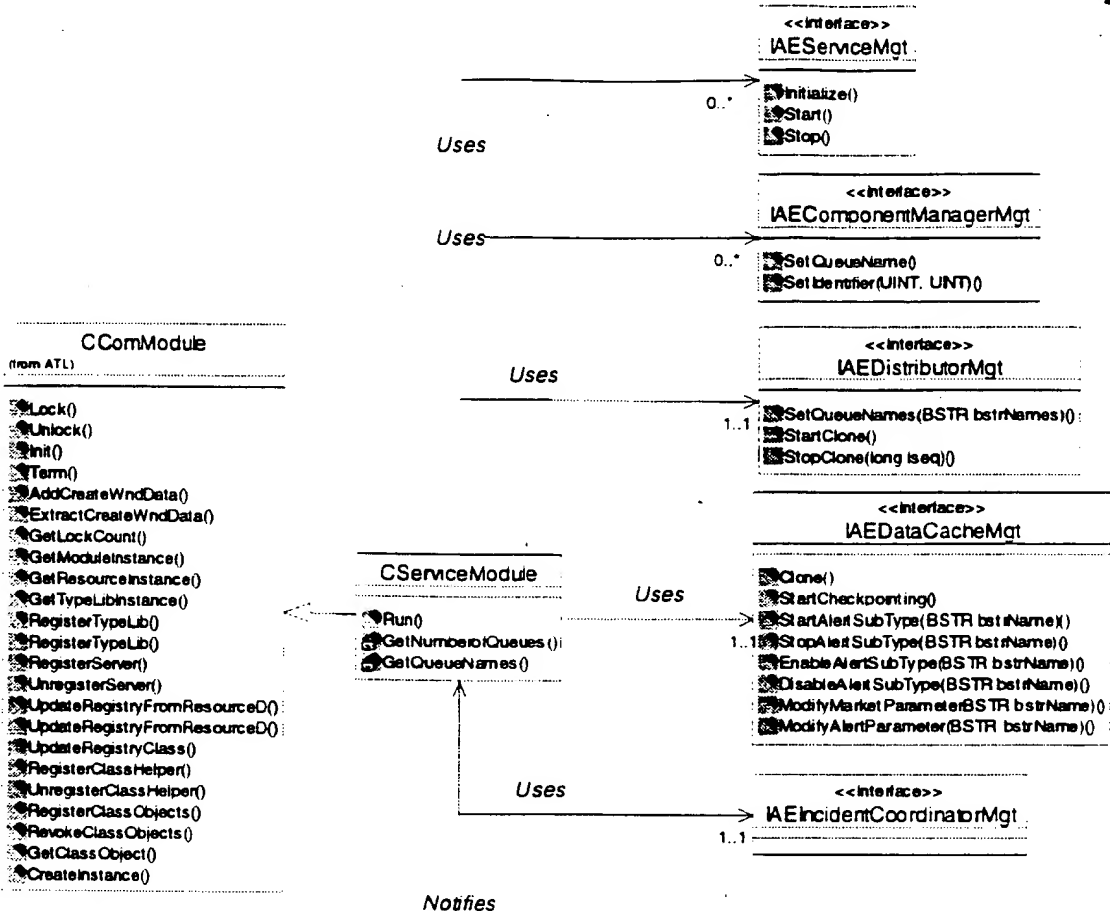
184 →

FIG. 13B



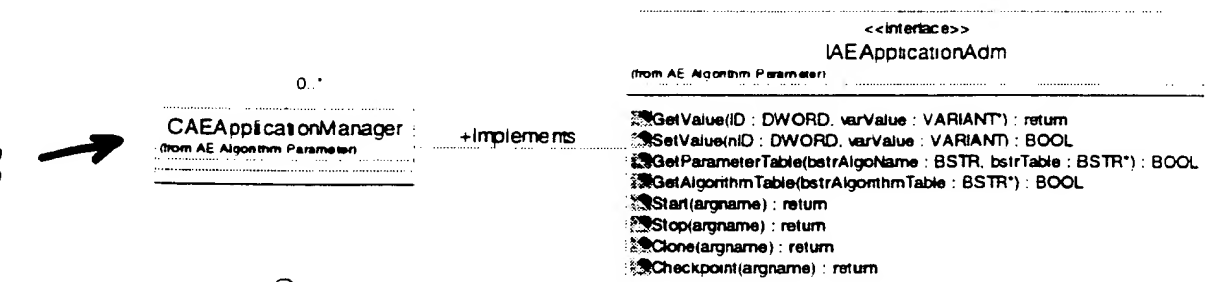
60000-07-0000

216



204

38



CComObjectRootEx<class CComSingleThreadModel>
(from ATL)

DispatchImpl
(from ATL)

DispatchImpl()
-DispatchImpl()
\$GetTi()
GetTypeInfo()
GetIDsOfNames()
Invoke()
TypeInfoCount()

CComCoClass
(from ATL)

\$GetObjectDescription()
\$GetObjectCLSID()
\$Error()
\$Error()
\$Error()
\$Error()
\$Error()
\$Error()

FIG. 13D

242 Receive market event message from line handler

240 ↘
244 Determine issue and sequence number of received message

246 Is new number duplicate of old highest number?
Yes → 248 Discard

FIG. 14

250 Is message next expected message?
Yes → 252 Distribute message to queue for the message issue

No
254 Is message higher than expected message?
Yes → 256 Distribute message and data on new gap to queue

258 Is message in old gap?
Yes → 260 Distribute message and modification to old gap to queue → 262 Update gap list in data cache
No → 264 Message is duplicate — discard

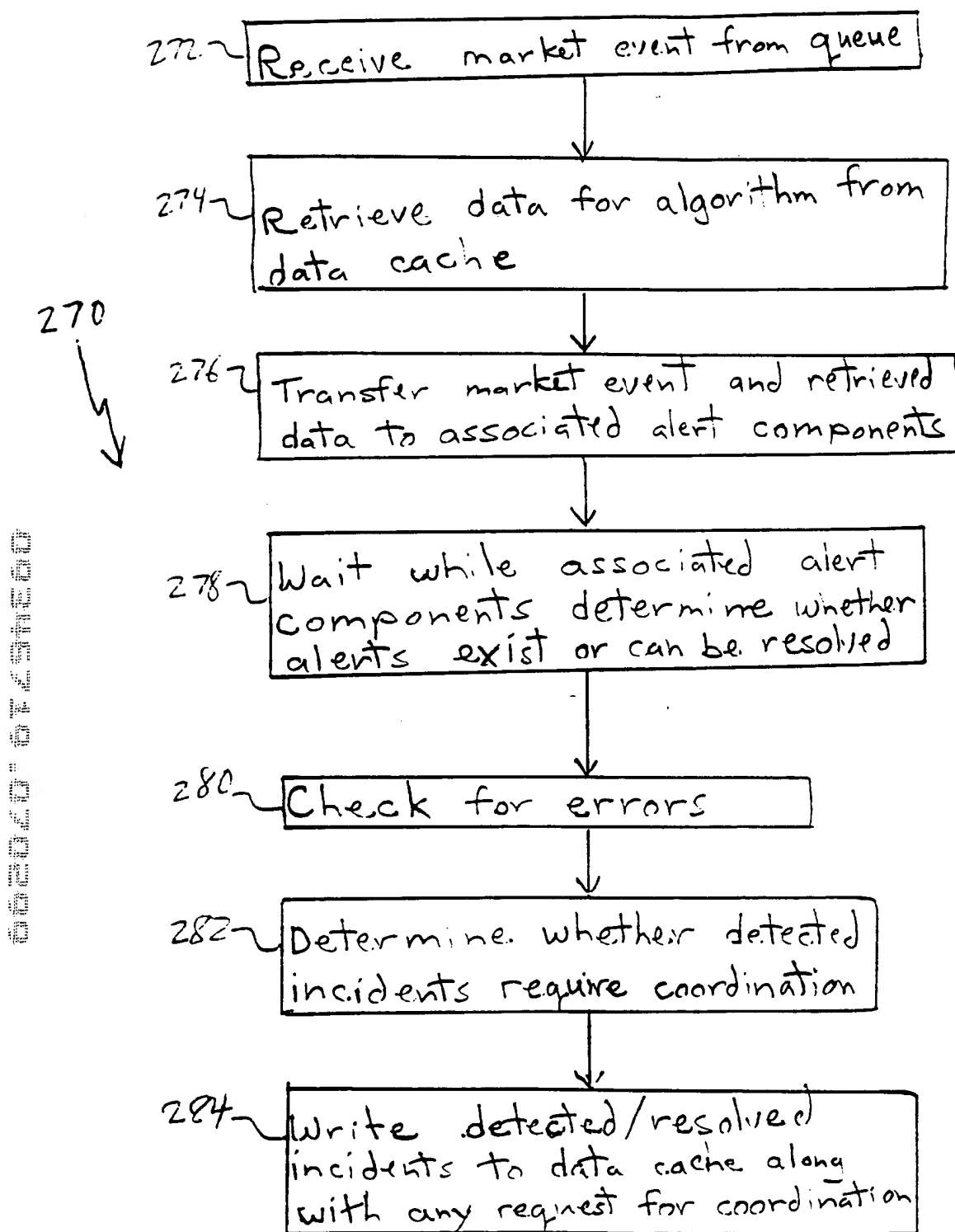


FIG. 15

00000-0129160

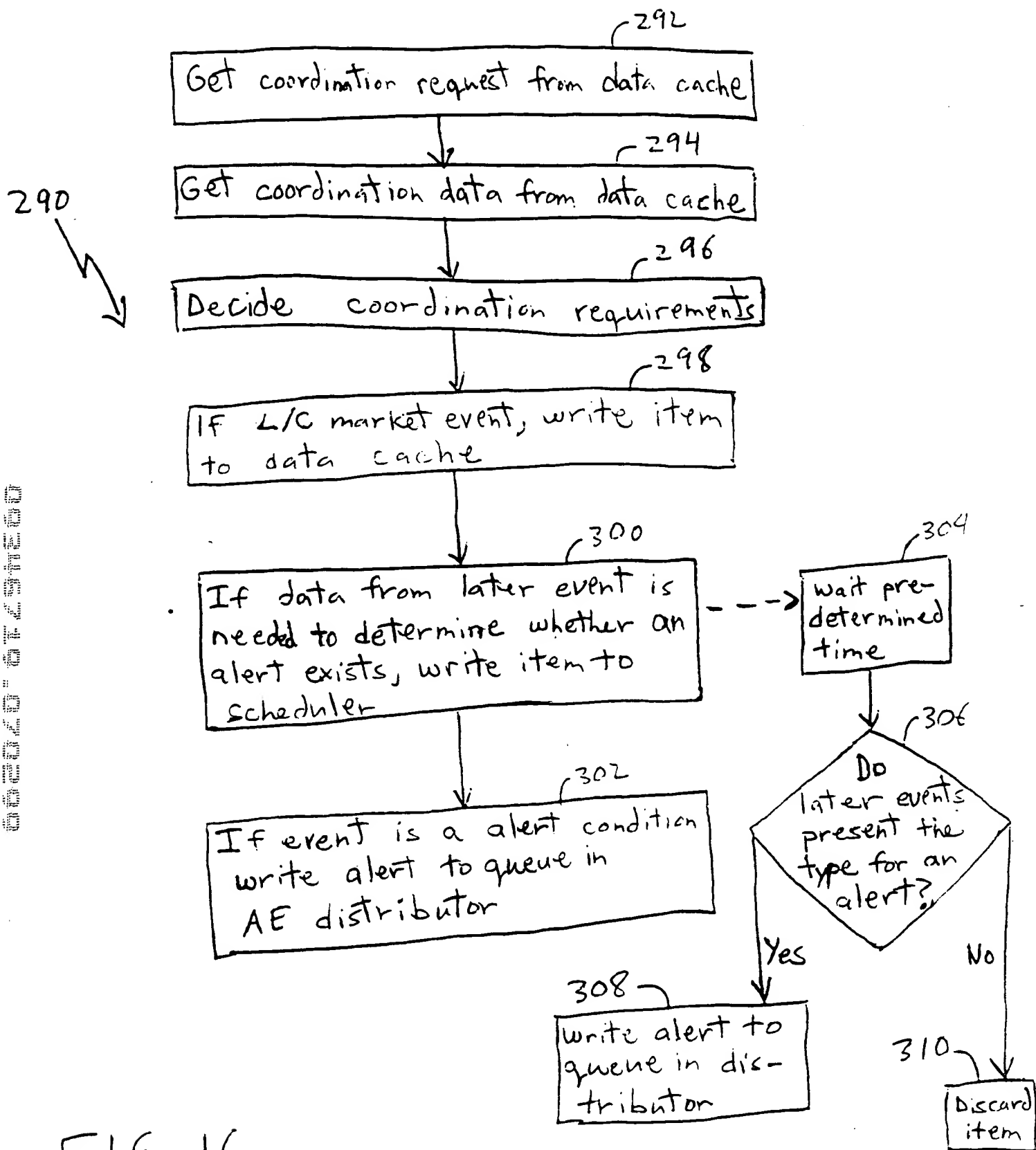
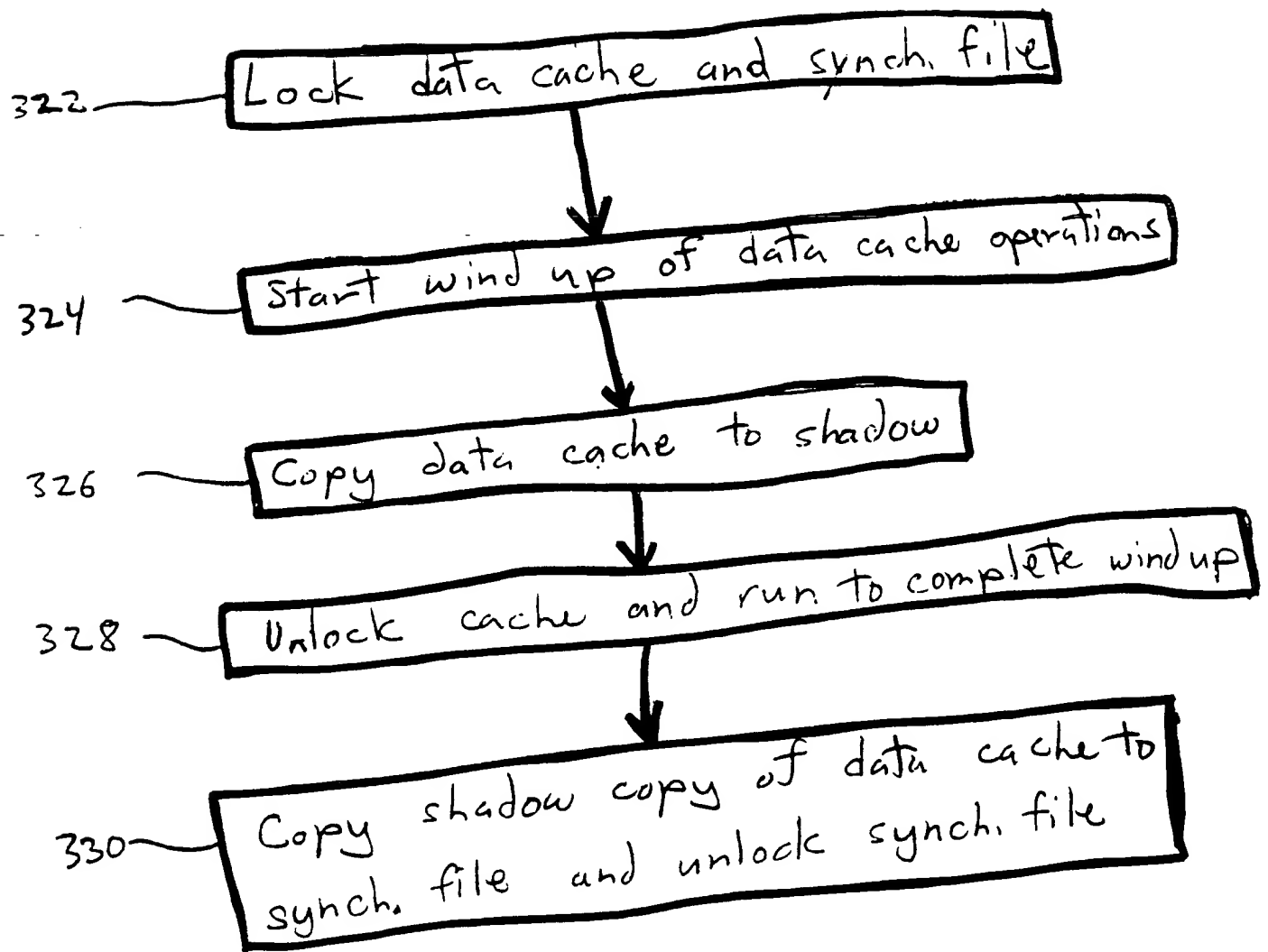


FIG. 16



320

FIG. 17A

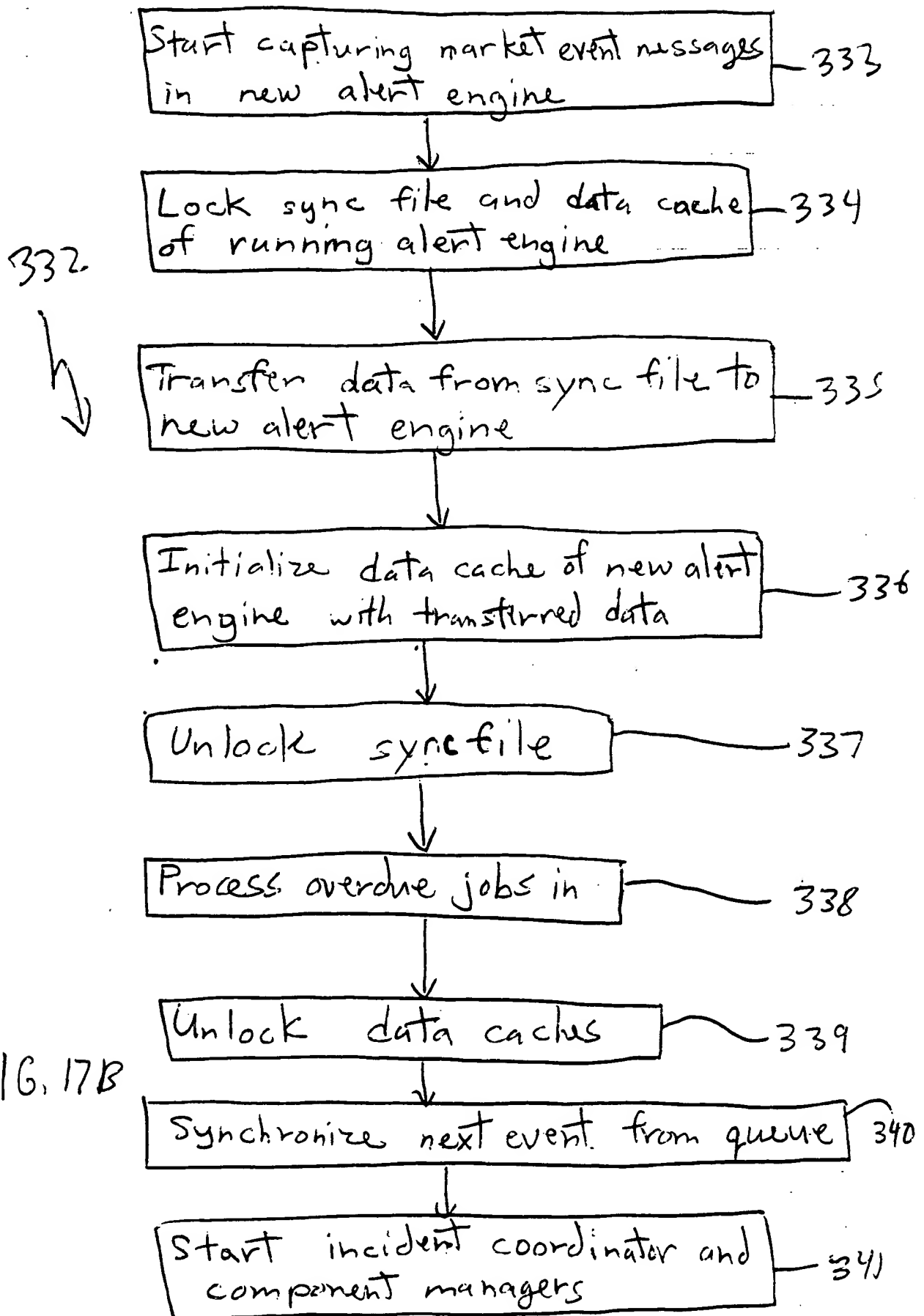


FIG. 17B

00000-0729E00

Alerts,
resolution,
incidents, and
events

FIG. 19

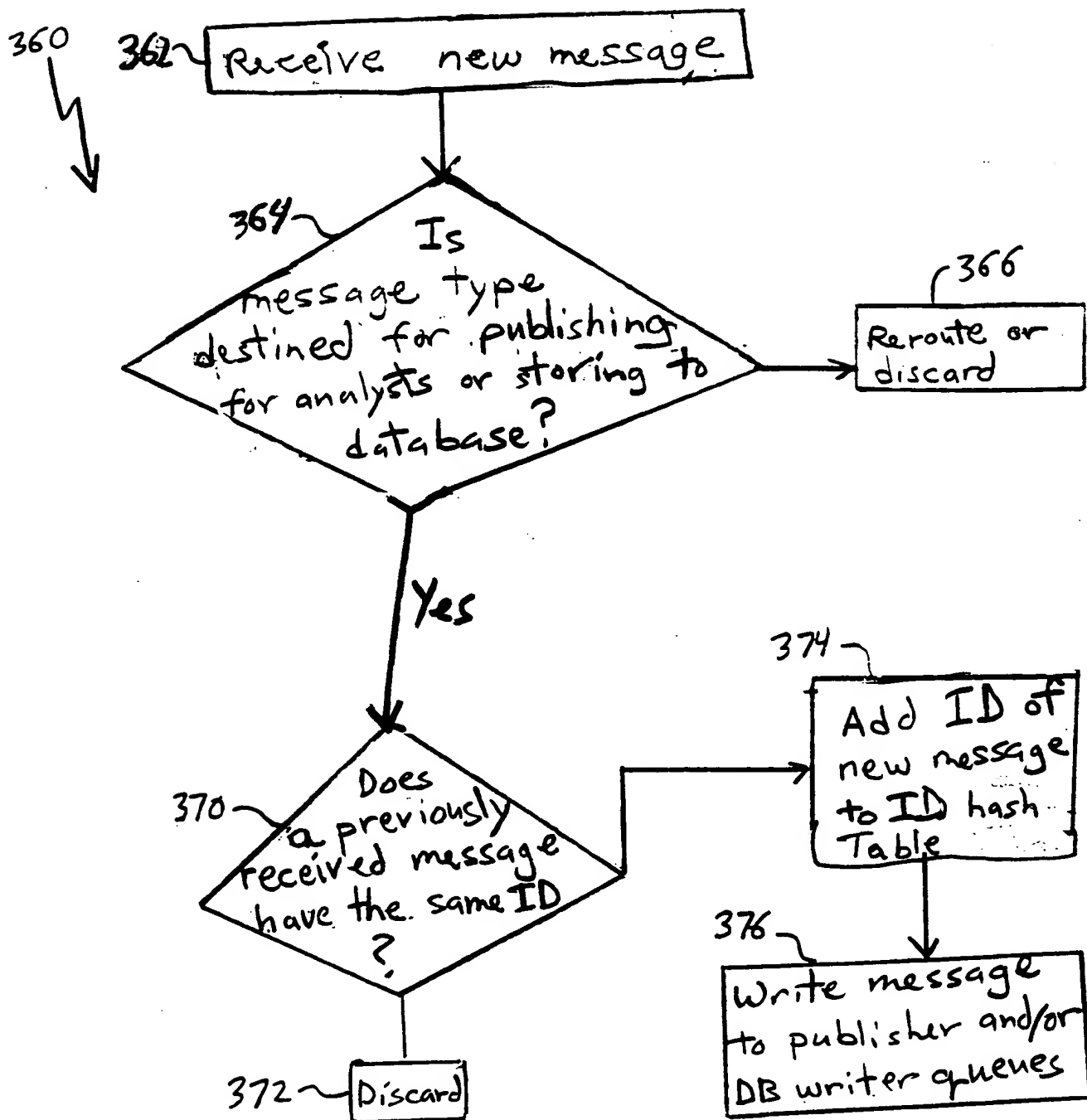
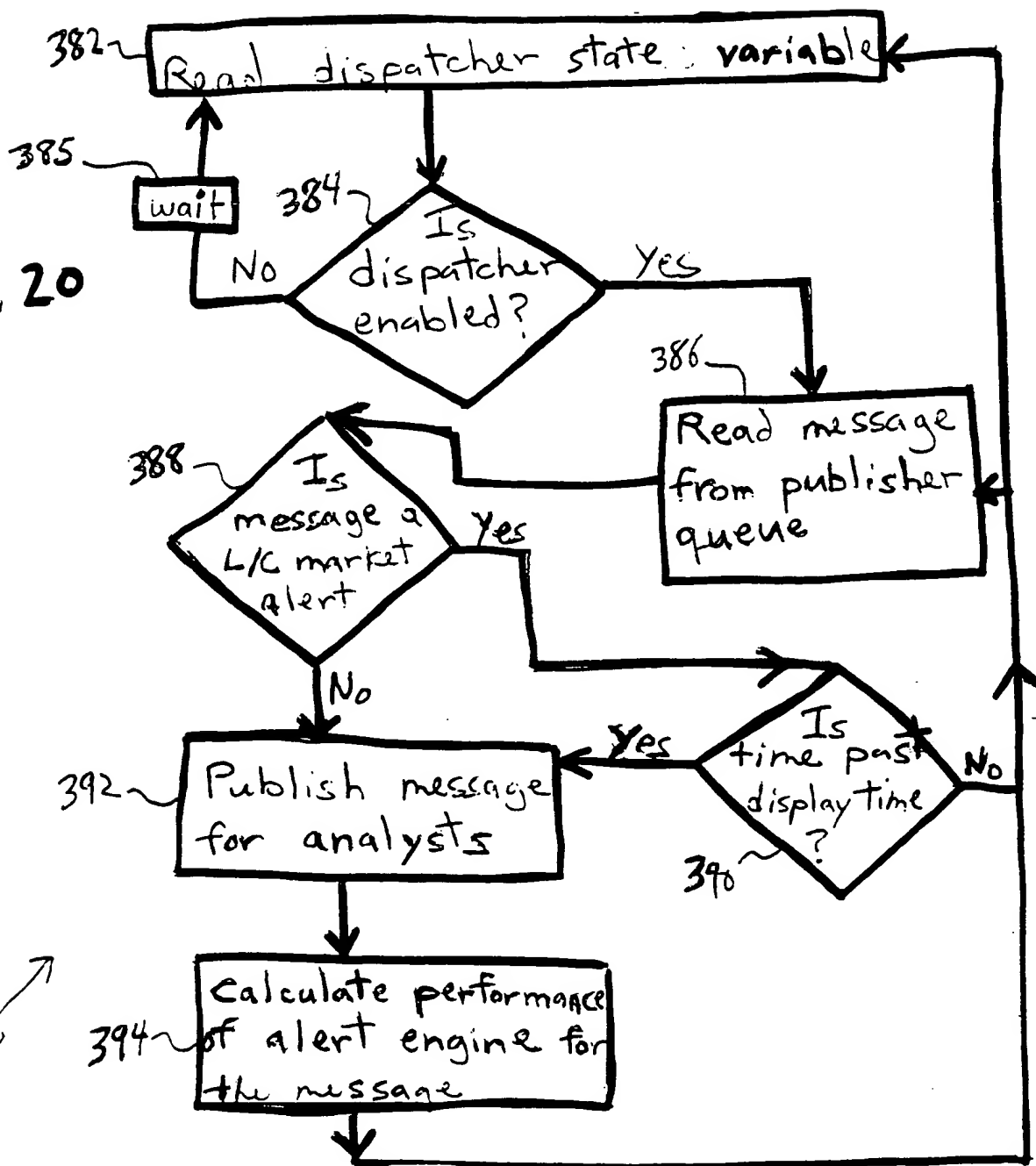


FIG. 20



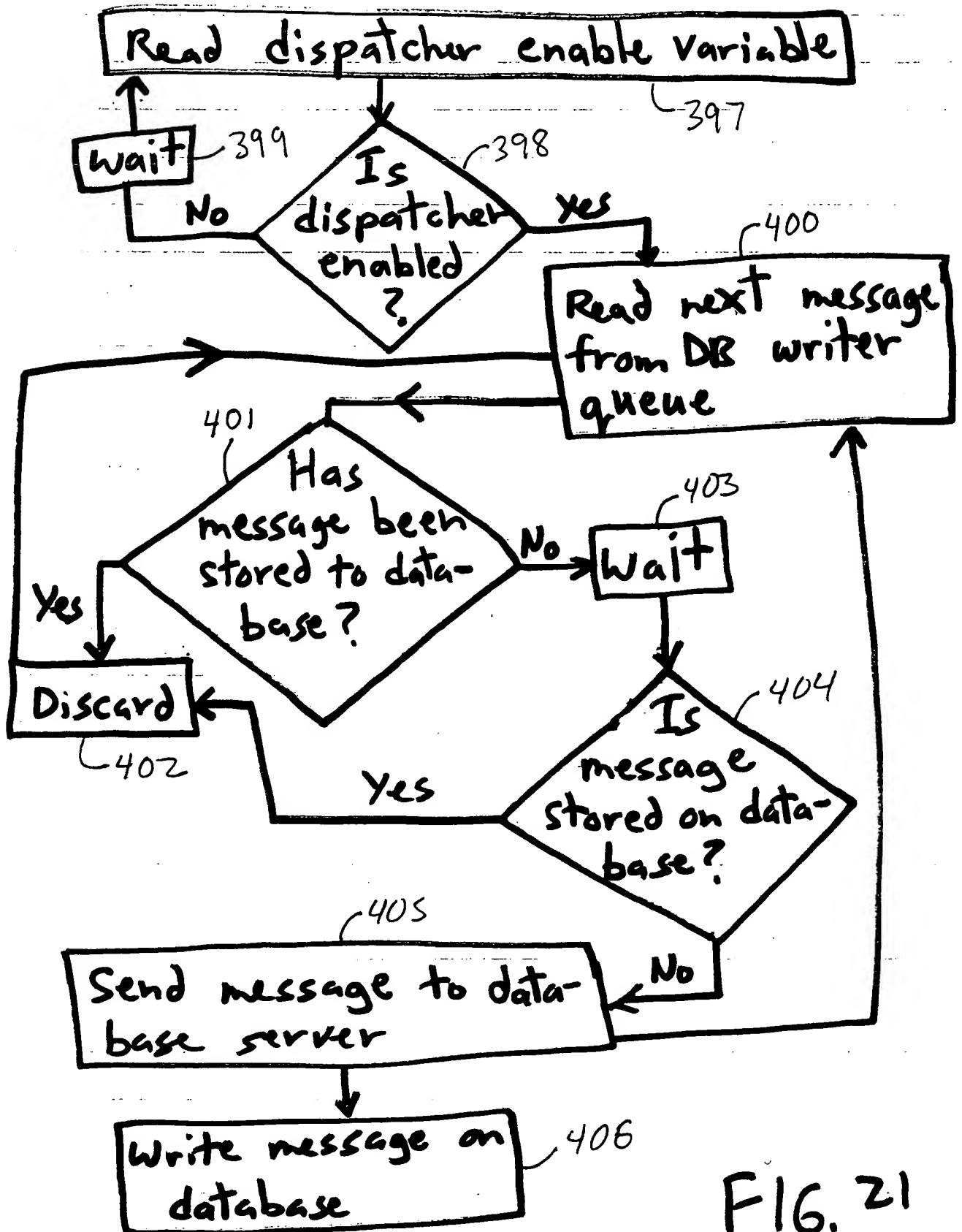


FIG. 21

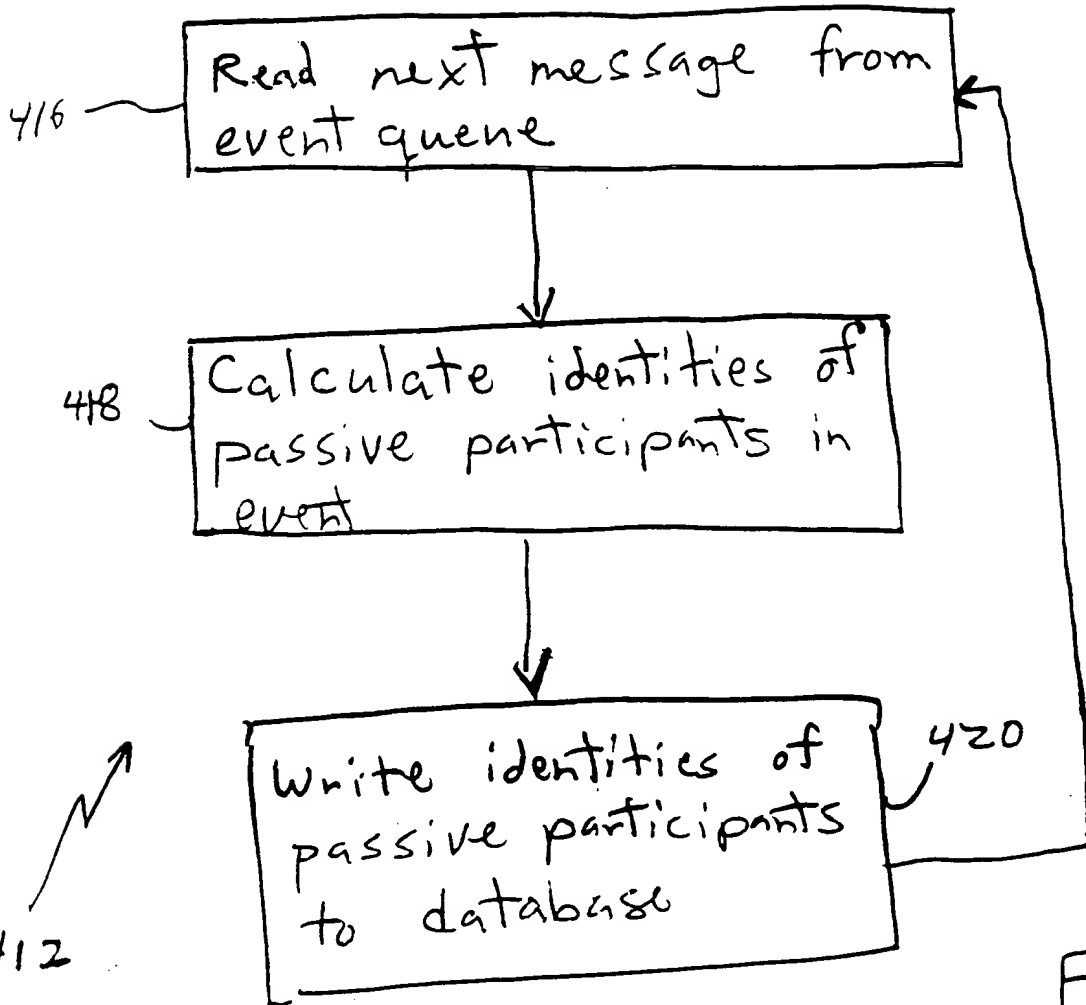
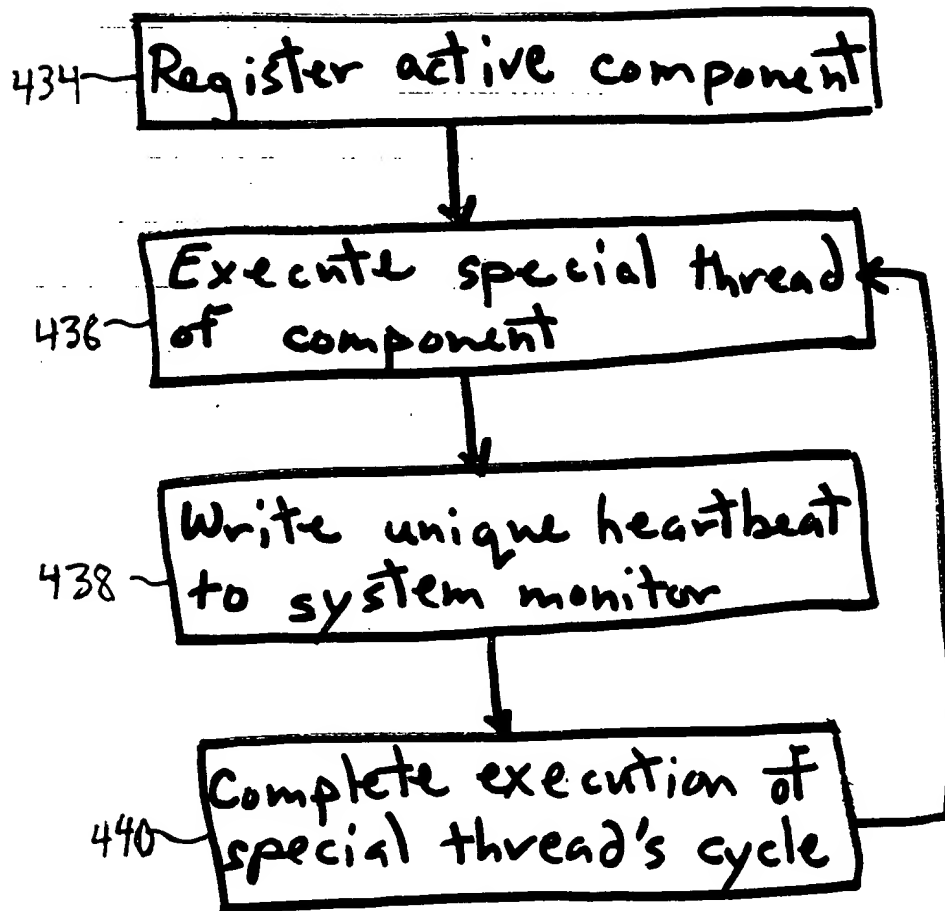


FIG. 22



432

FIG. 23

662020-07-29-2020

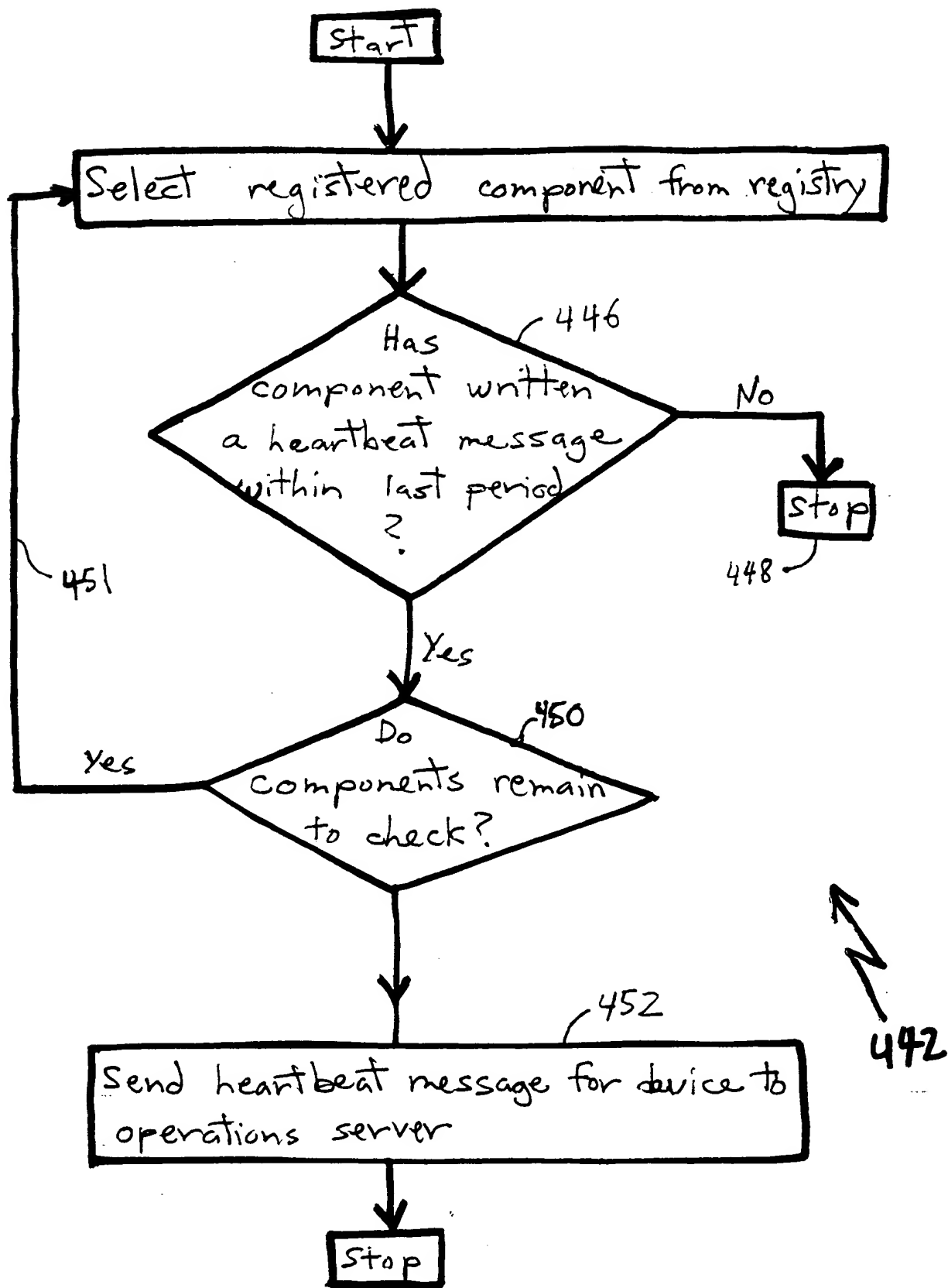


FIG. 24

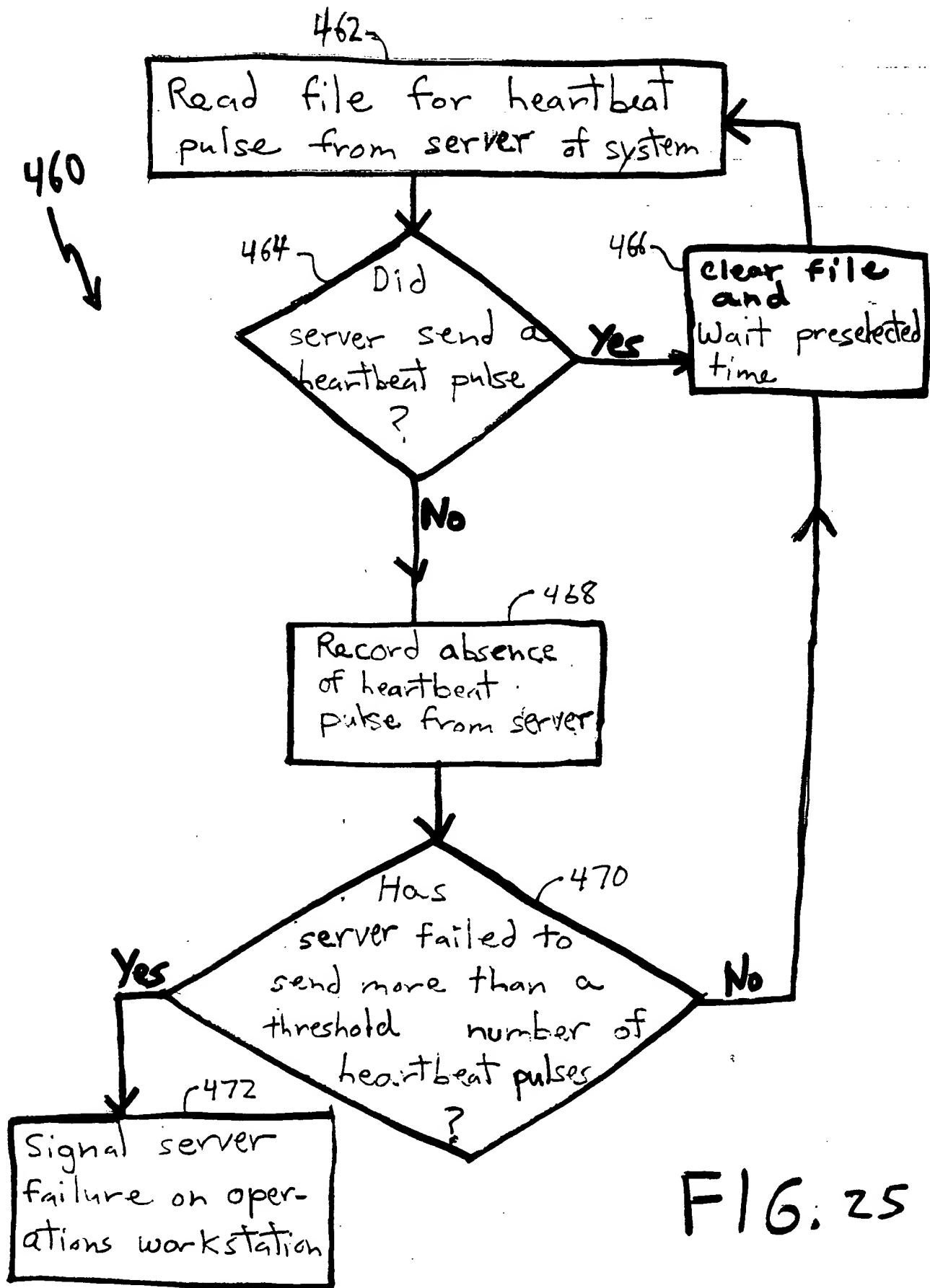
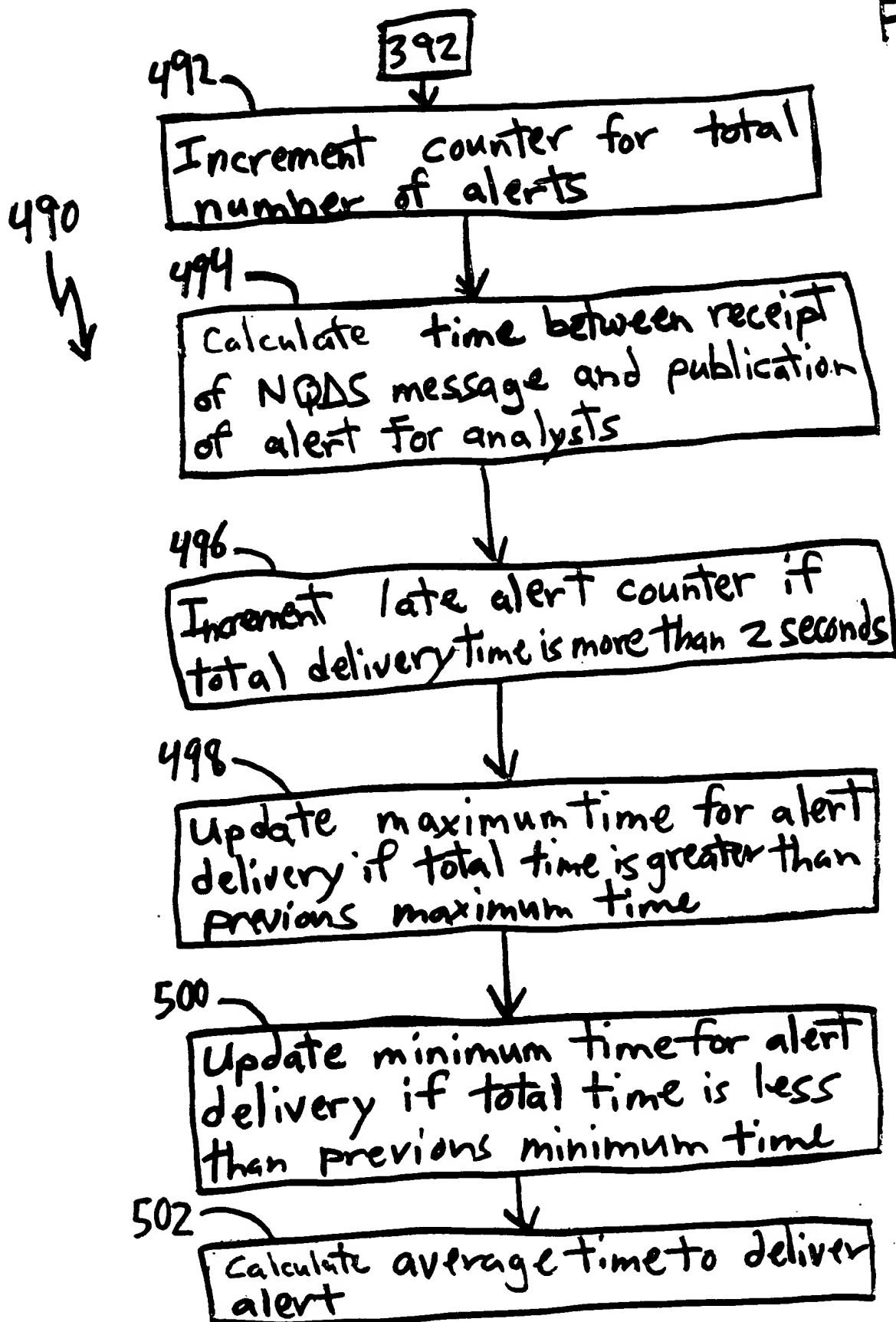


FIG. 25



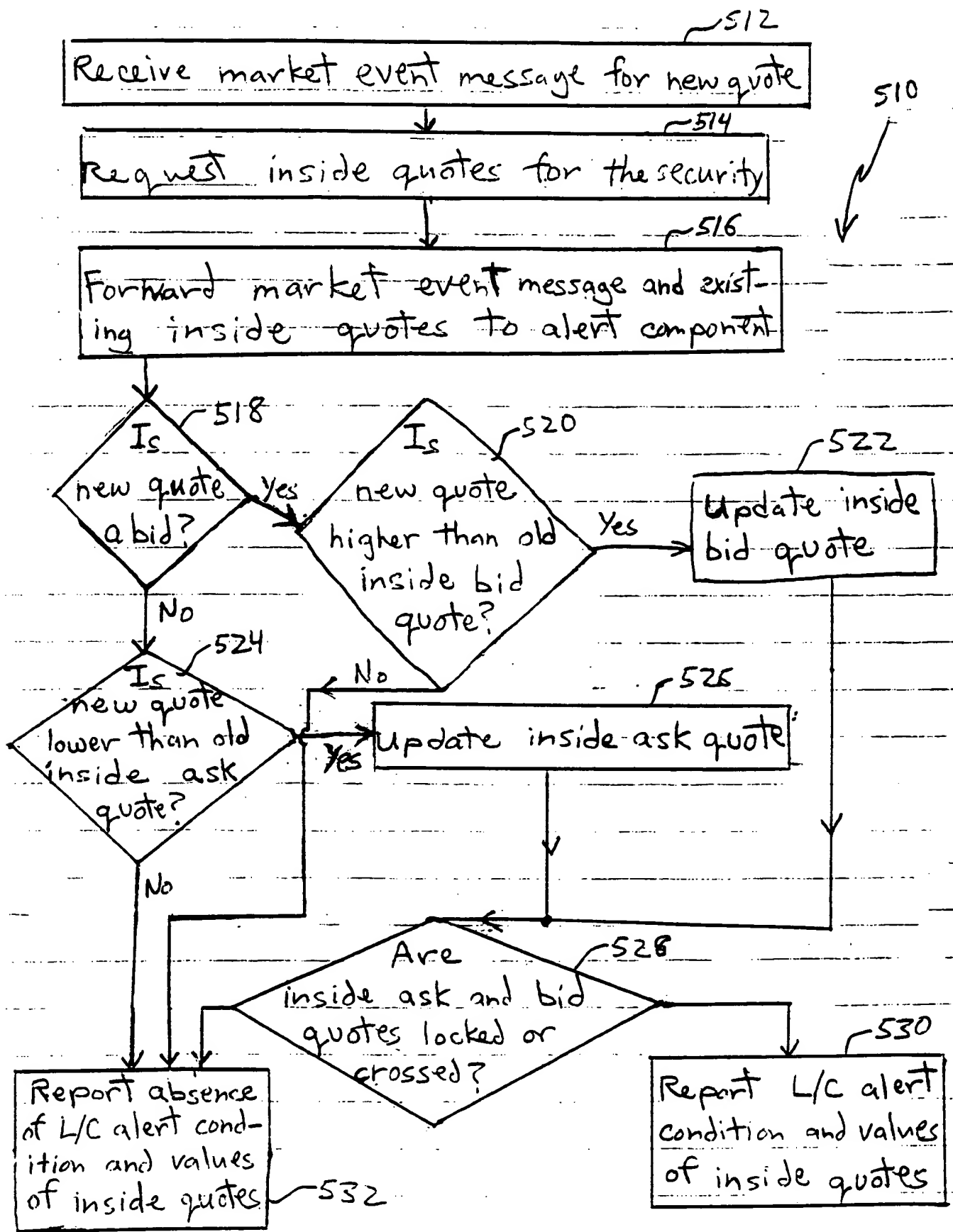


FIG. 27

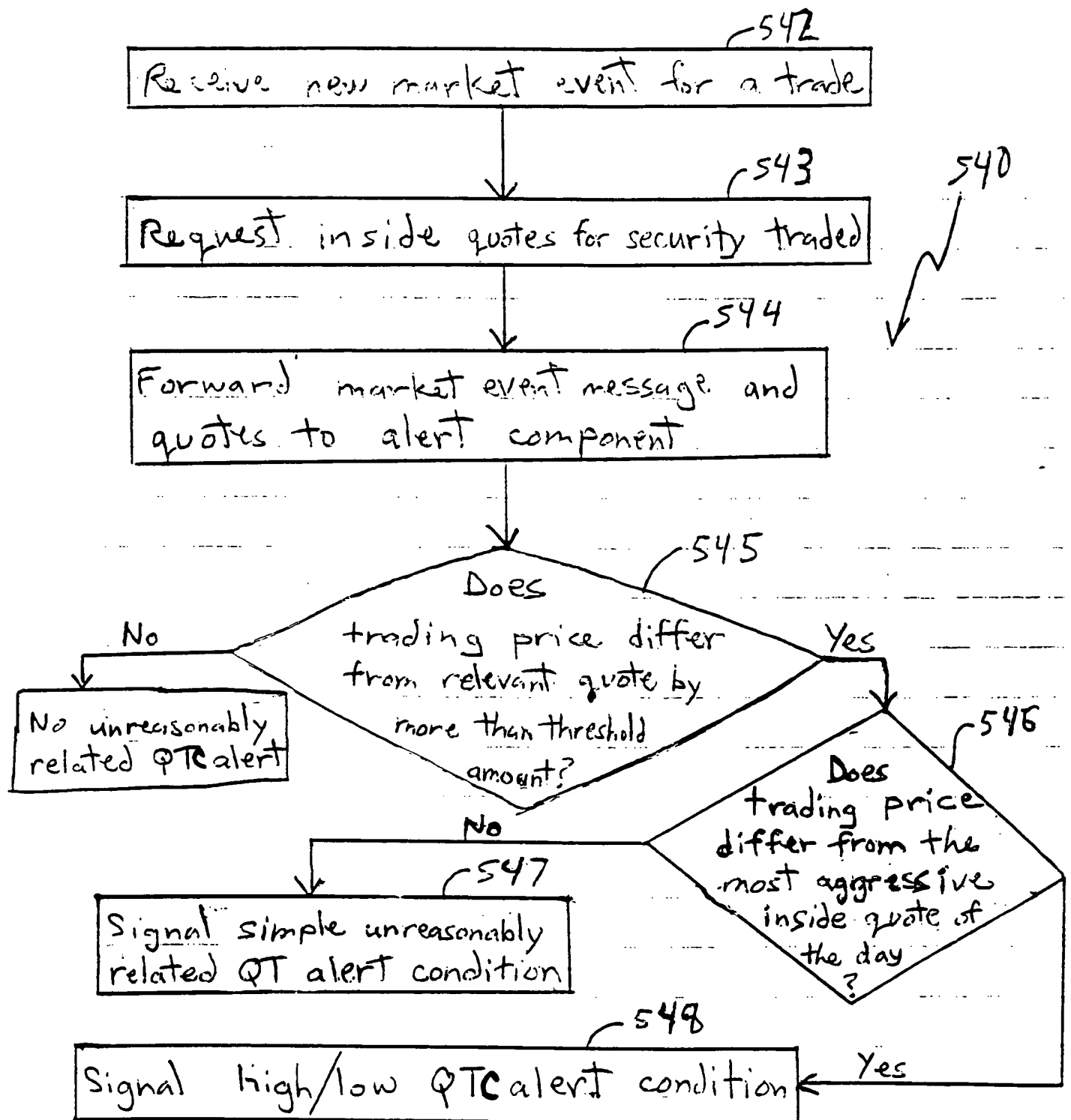


FIG. 28

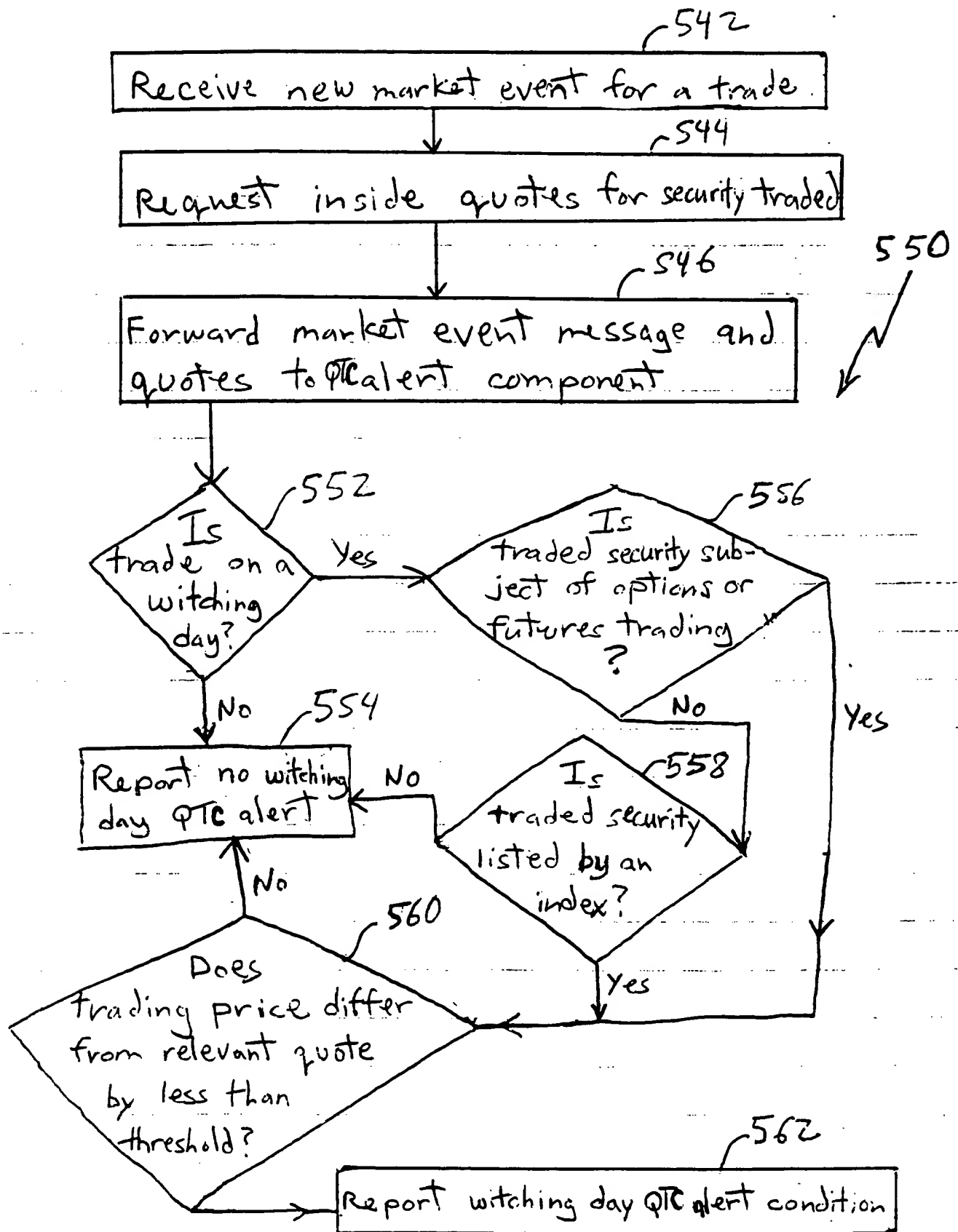


FIG. 29

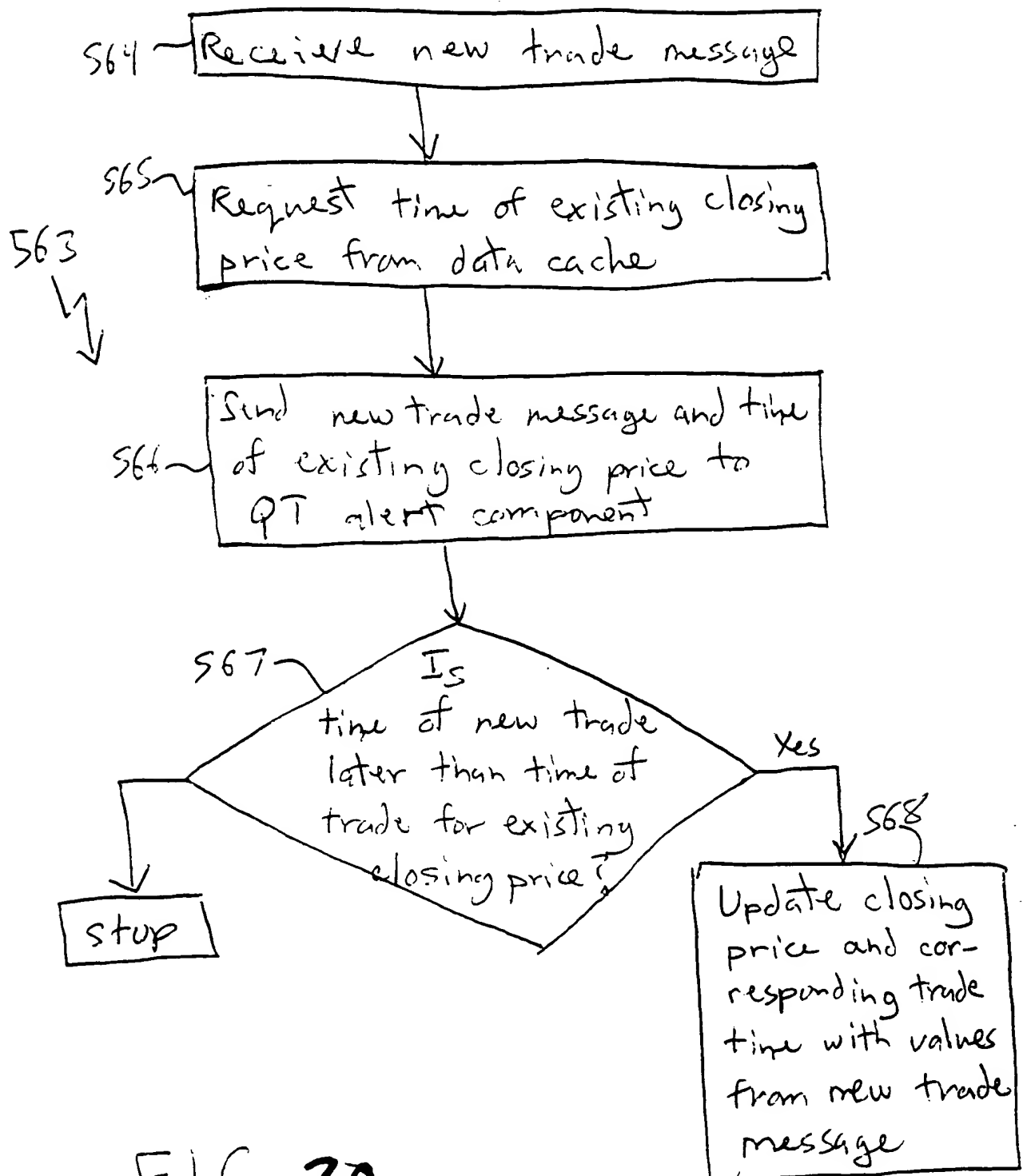
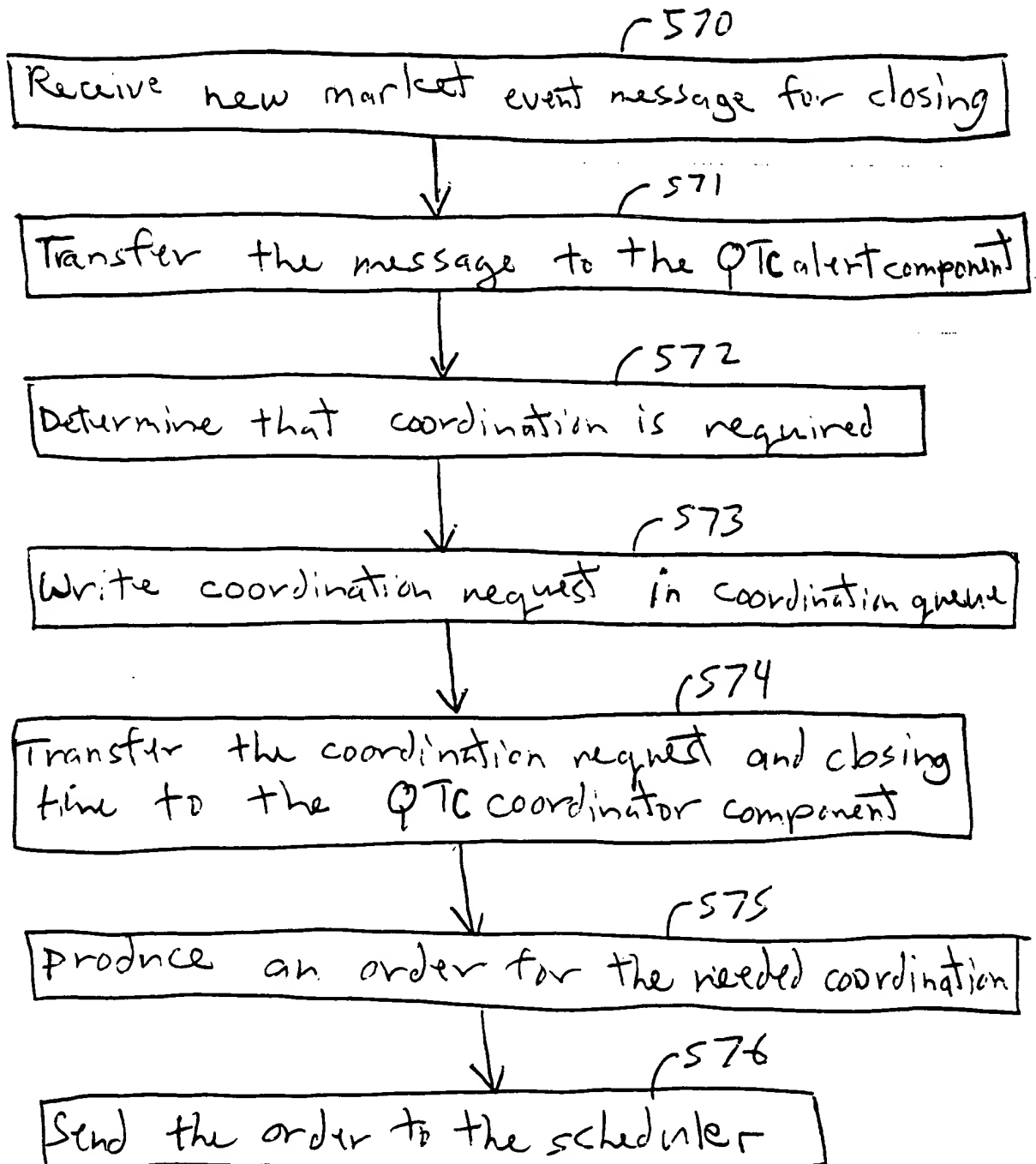


FIG. 30

569
↓



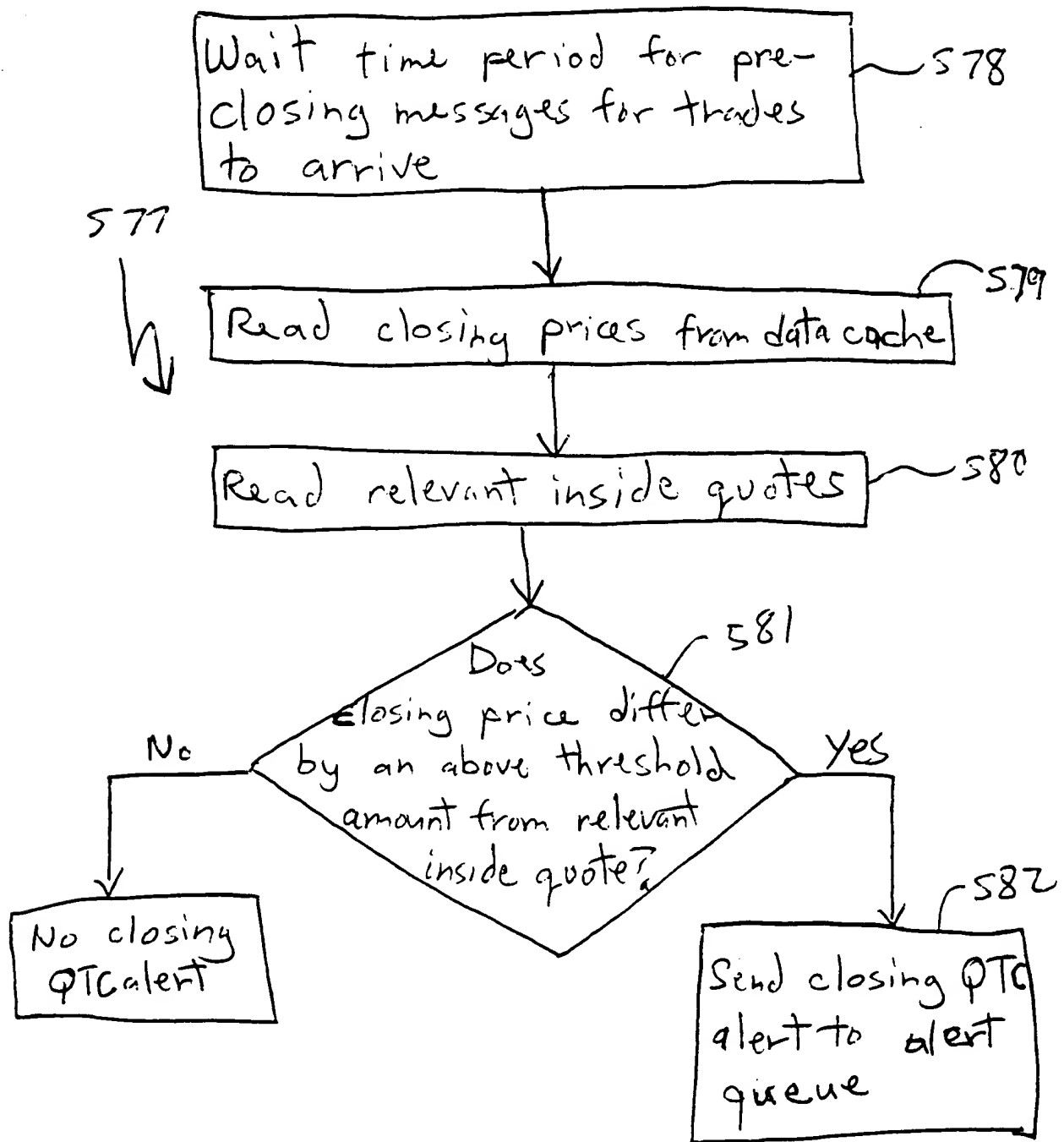
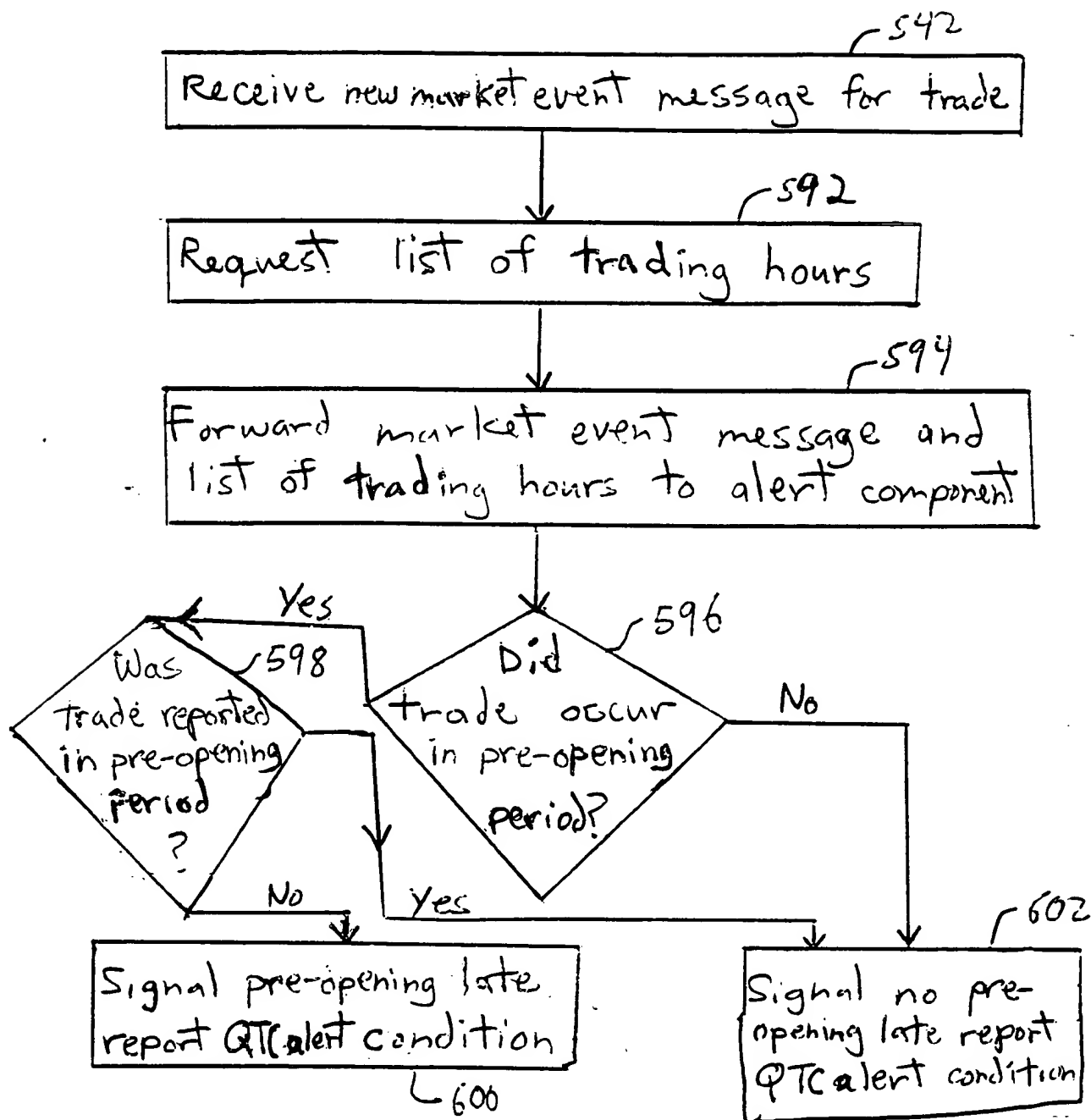


FIG. 32

6000-07-01-0000



590

FIG. 33

604 606 608 610

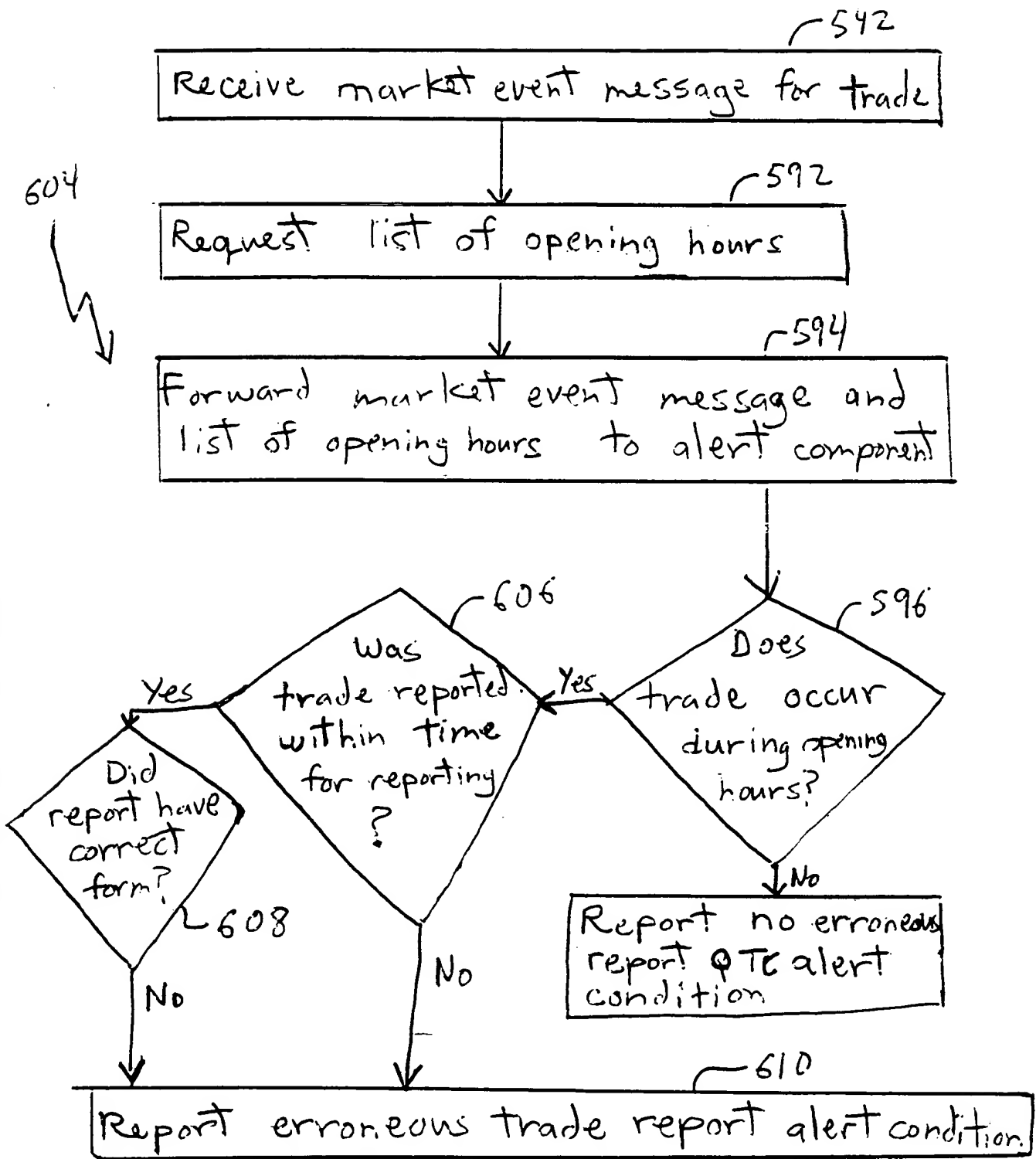


FIG. 34

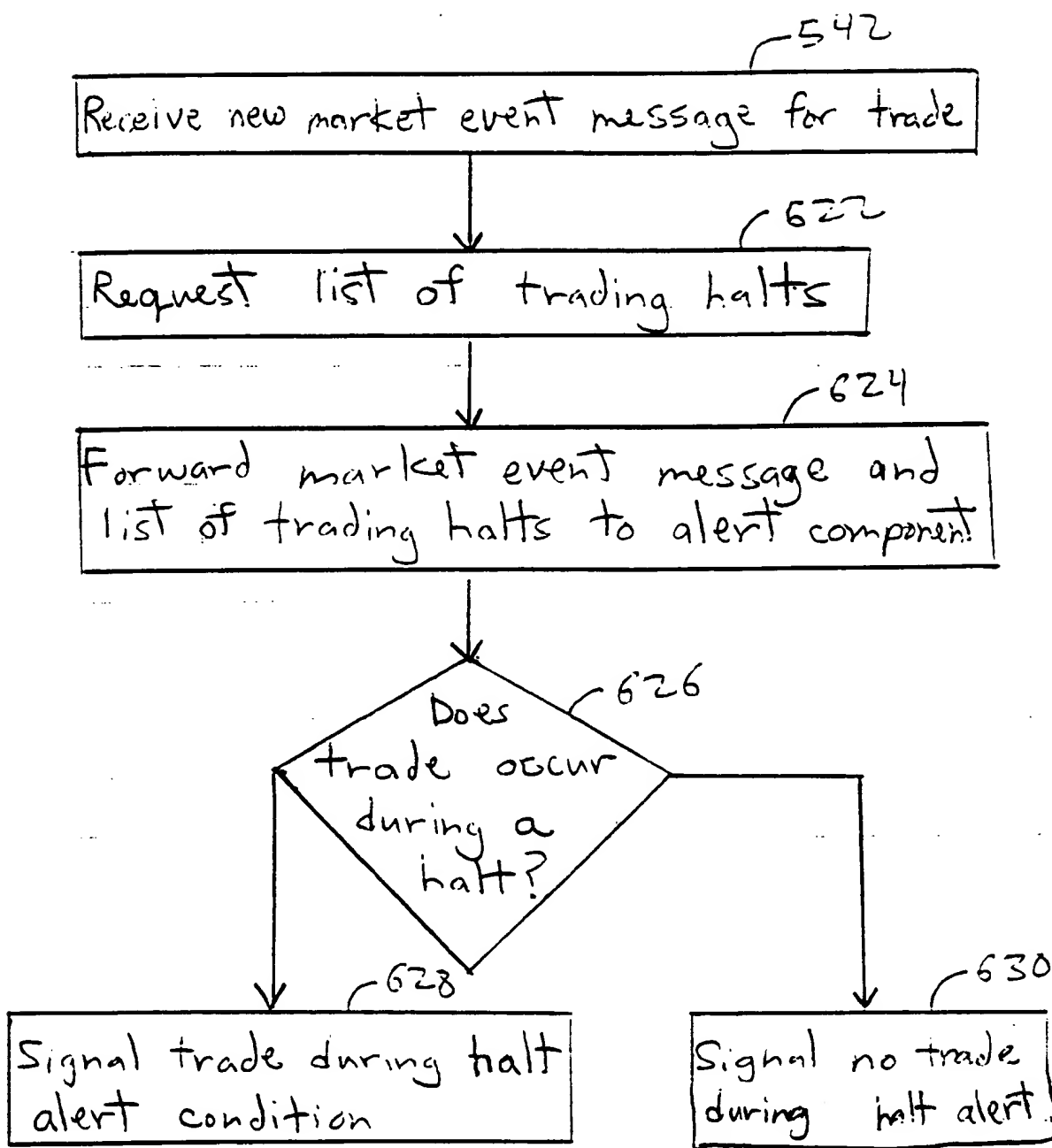
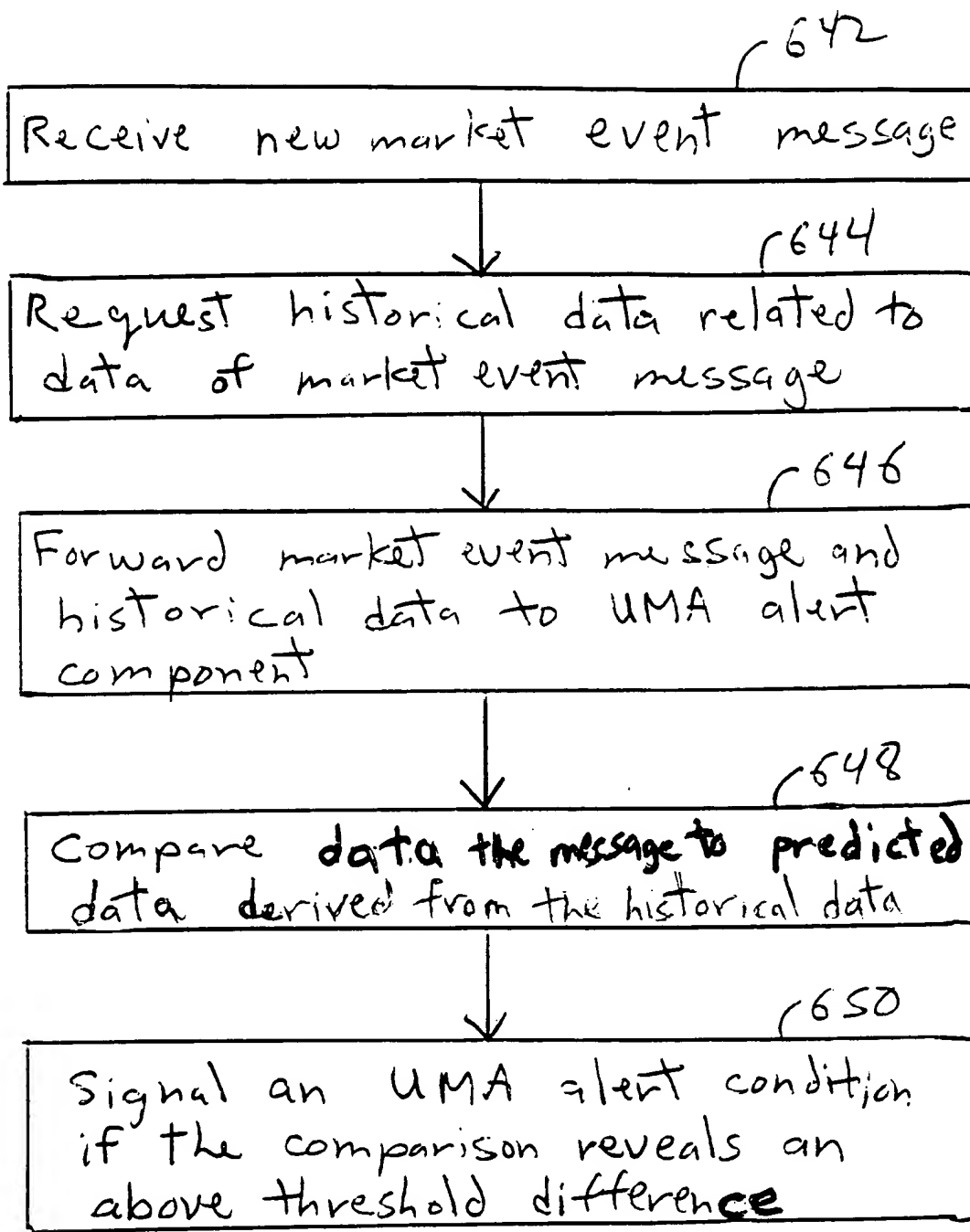


FIG. 35



640

FIG. 36

15:31:07	L	GOLF	32 3/8	32 3/8	H
15:31:02	C	SCCB	27 3/8	27 1/8	
15:30:57	L	KIDD	56 3/8	56 3/8	
15:30:52	C	FSFB	66 3/8	66 1/8	
15:30:47	C	FSFB	66 3/8	66 1/8	

15:31:03	L-3W	SCCB	87 3/16	87 5/16	
15:30:56	H+R	SNET	32 1/8	32 3/8	H
15:30:49	H+W	INVA	57 1/3	25 7/8	

Time	Type	Symbol	Insd Bid	Insd Ask	Pid
15:31:02	VOL	YELL	32 3/8	32 3/8	LV
15:30:52	52H	QATS	25 2/3	25 7/8	C

Halts	Type	Symbol	Marker	Child
Time				

Alert Query Results		
Quote Date	Symbol	Temp Symb

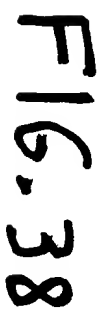
15:31:08	AP	1	President Clinton Arrives in China for 10 ...
15:31:07	Reuters		
15:31:06	DJ	MSET/INTC	Blair Sacks The Exchequer
15:31:05	AP		Analyst Raise Earnings Estimates
15:31:04	DJ		Bill Gates buys Washington State, Decl...
15:31:03			Ichiban to sell everything
15:31:02			Time to leave Tolle

☒ Display Resolved Alerts

Time	Type	Symbol	Insd Bid	Insd Ask	PA	Resolution
08:31:04	C	MSFT	103 5/8	103 1/2	Bull	
08:37:33	L	INTC	98 1/16	98 1/16		
08:31:04	C	CIBN	34 5/8	34 1/2		Referred to ...
08:37:33	L	SBAS	76 1/16	76 1/16		Contacted F...

Analyst Clusters

[illegible]

[illegible]

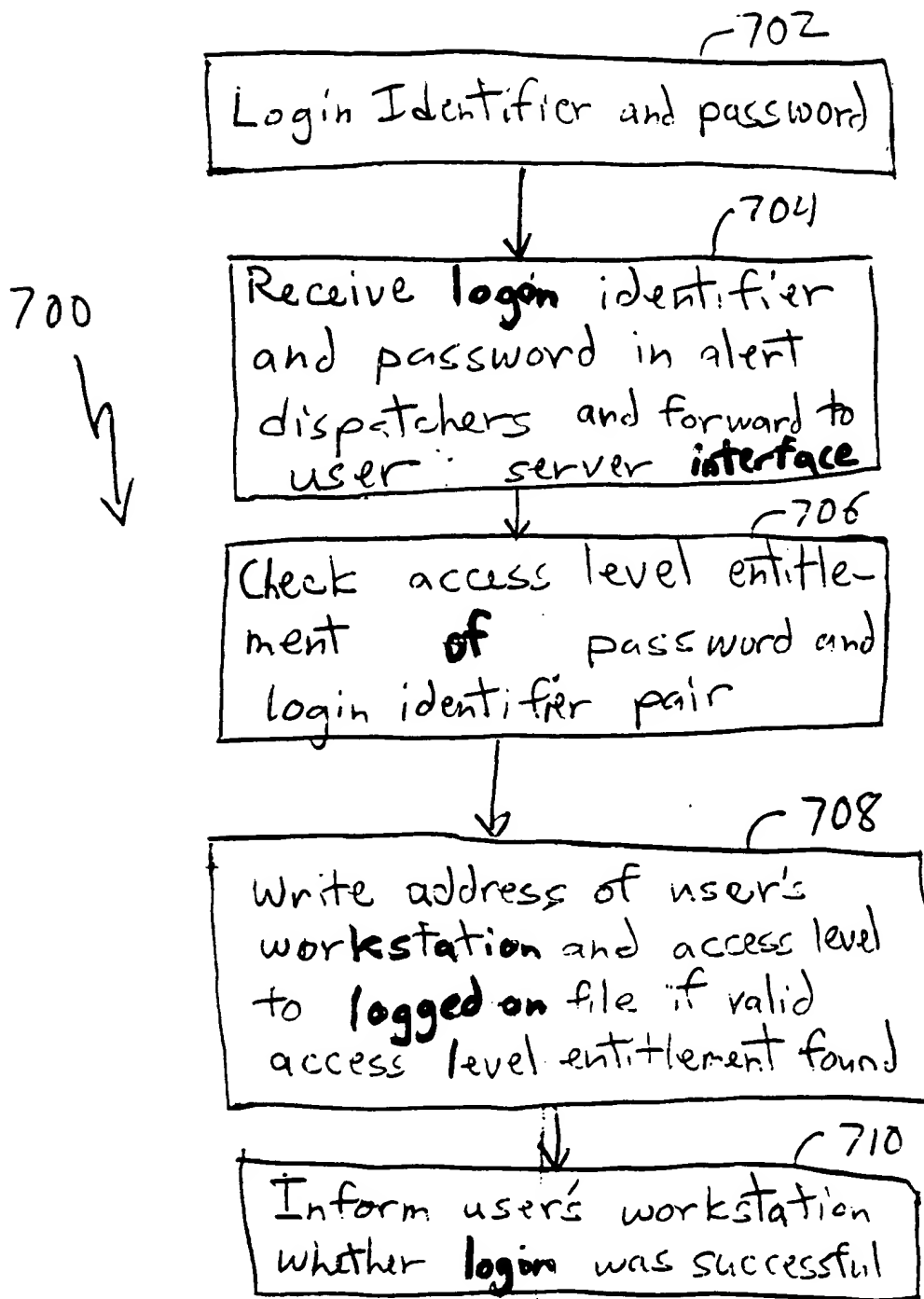


FIG. 39

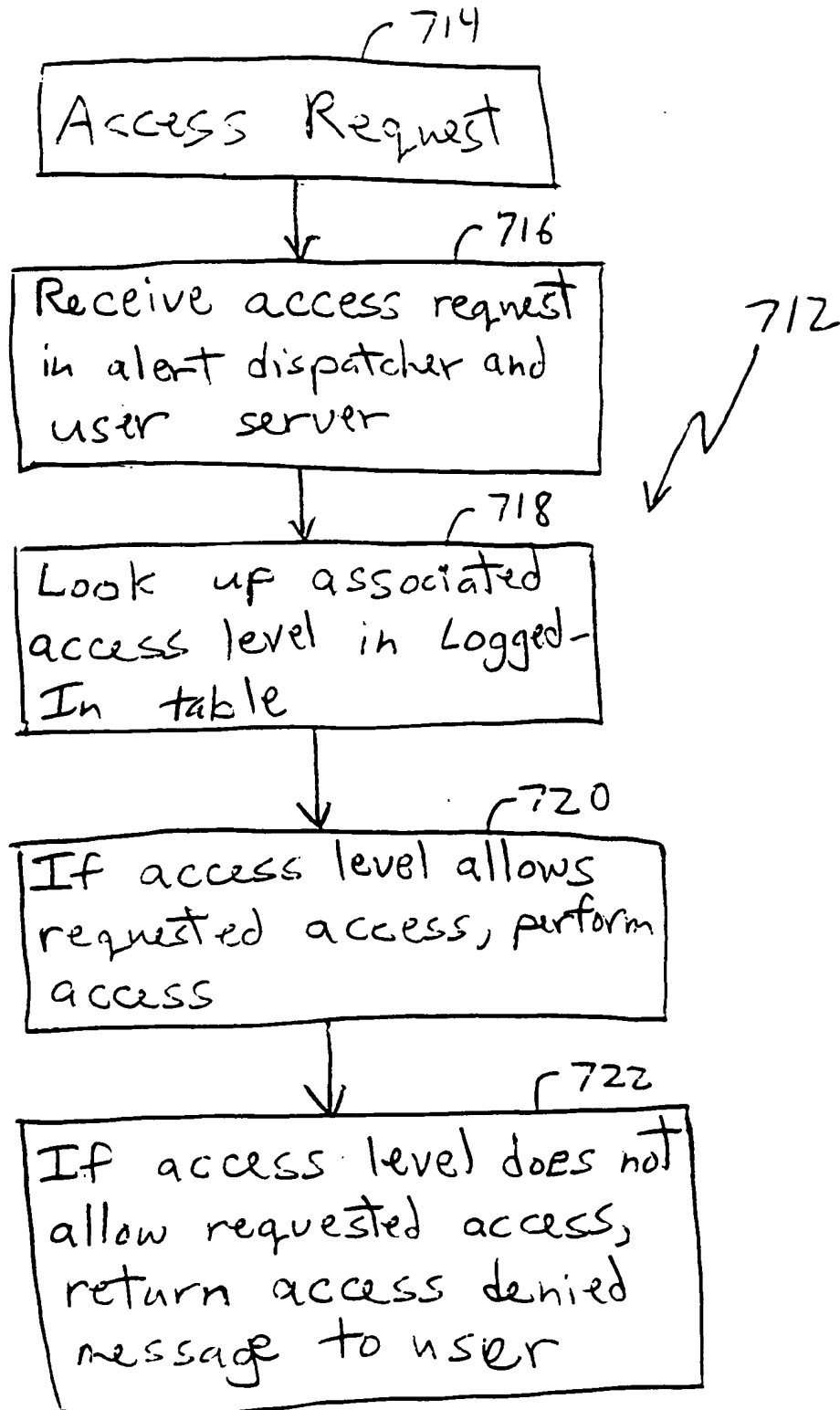
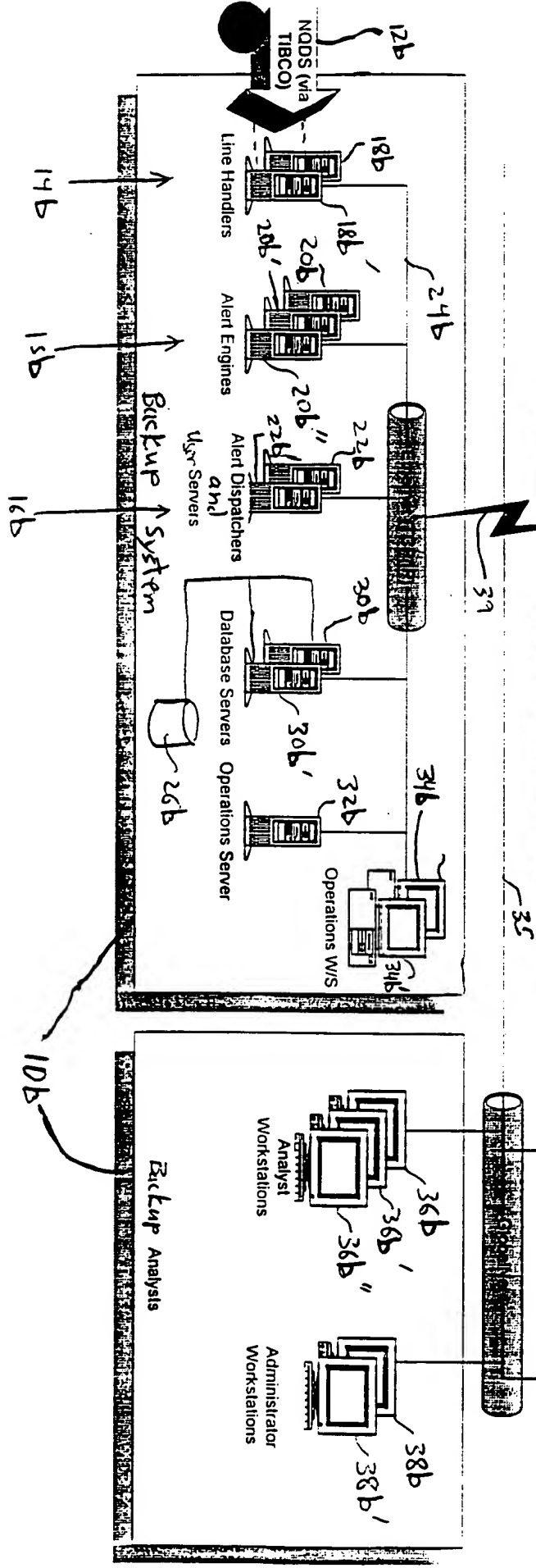
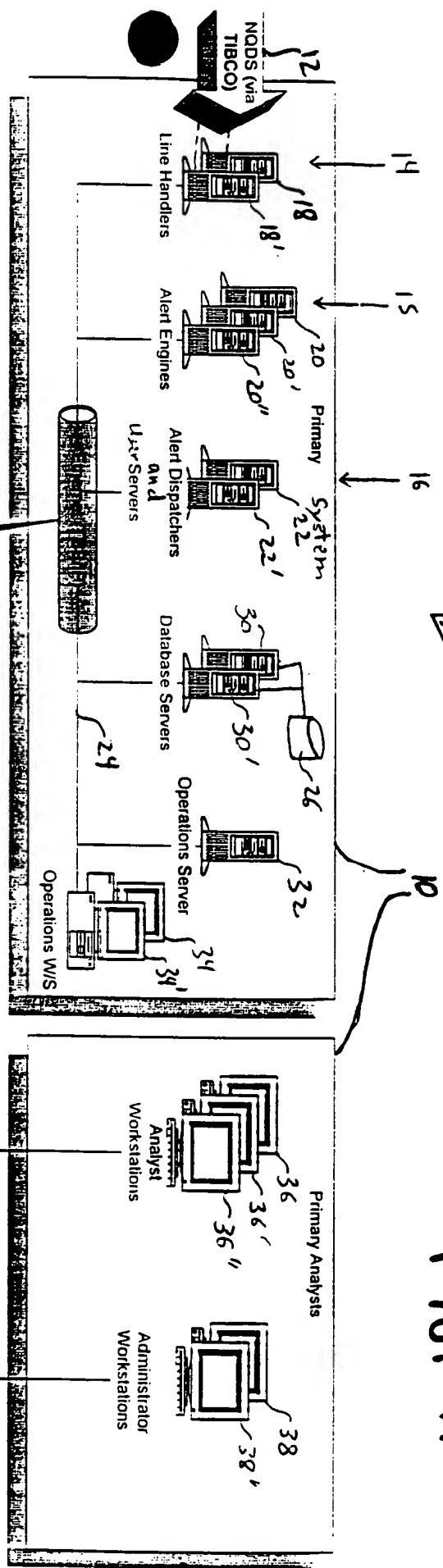


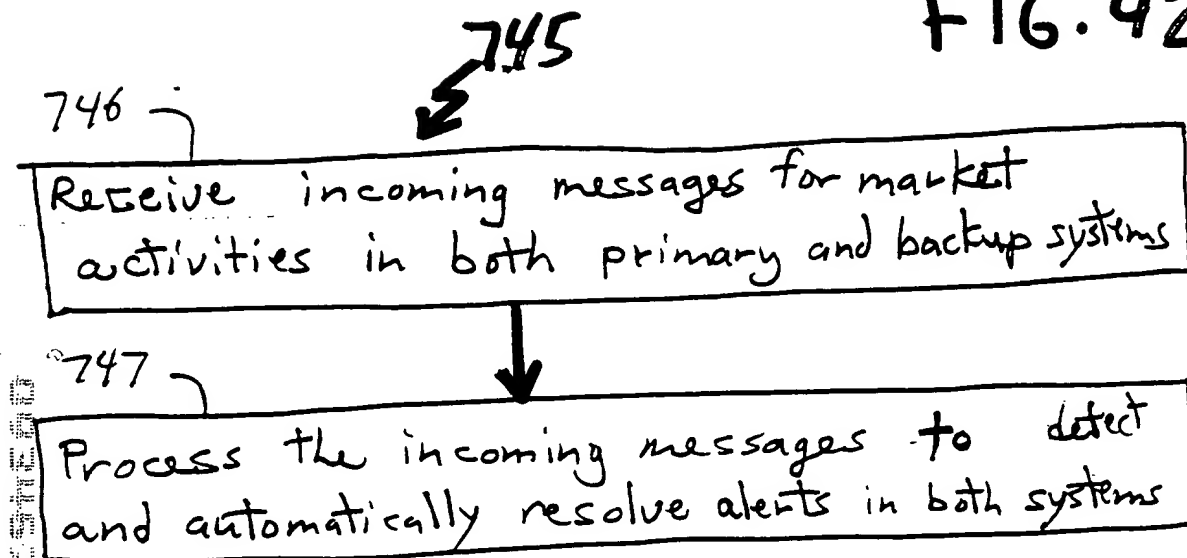
FIG. 40

F16. 41



00346749 030309

FIG. 42A



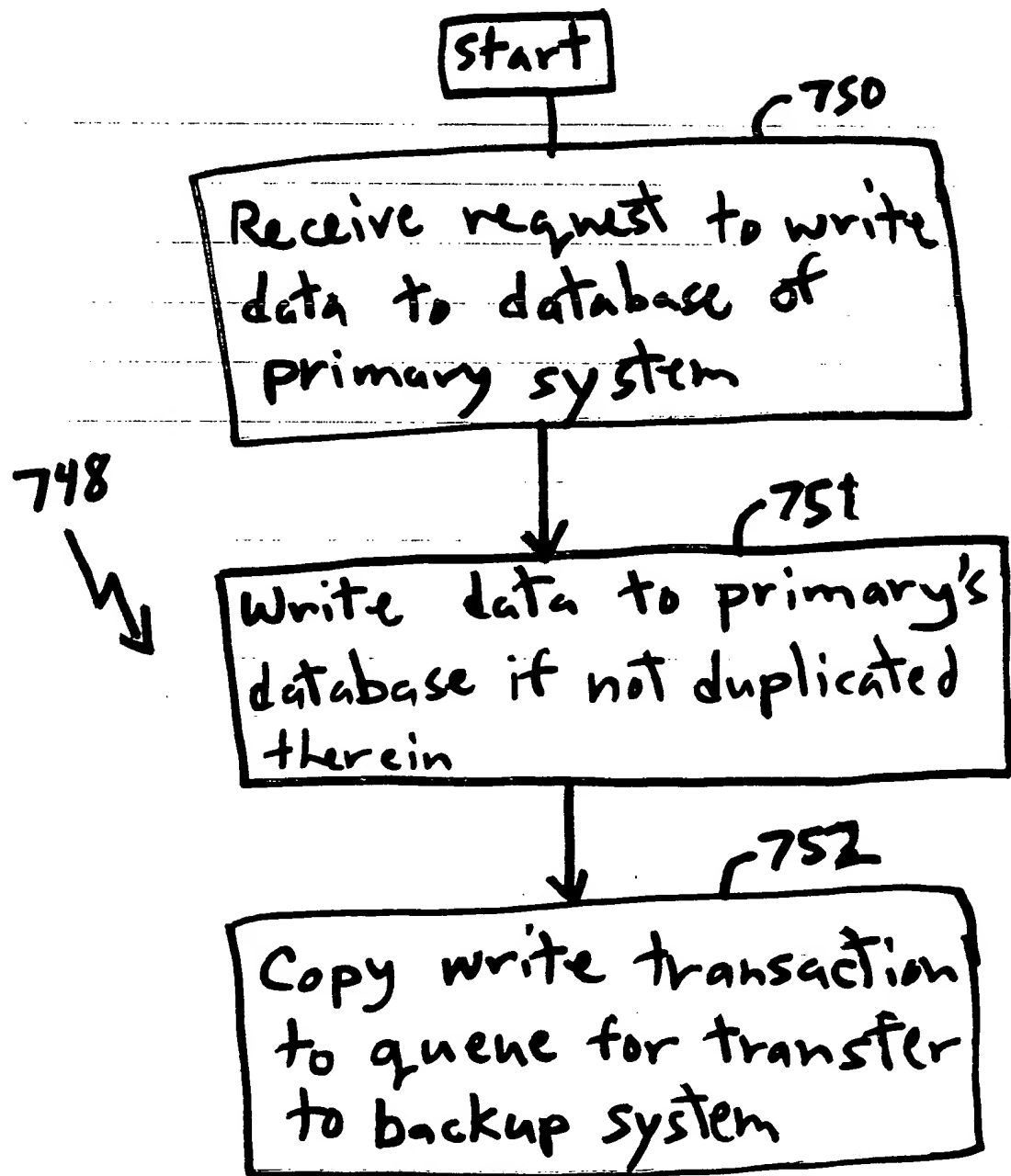


FIG. 42B

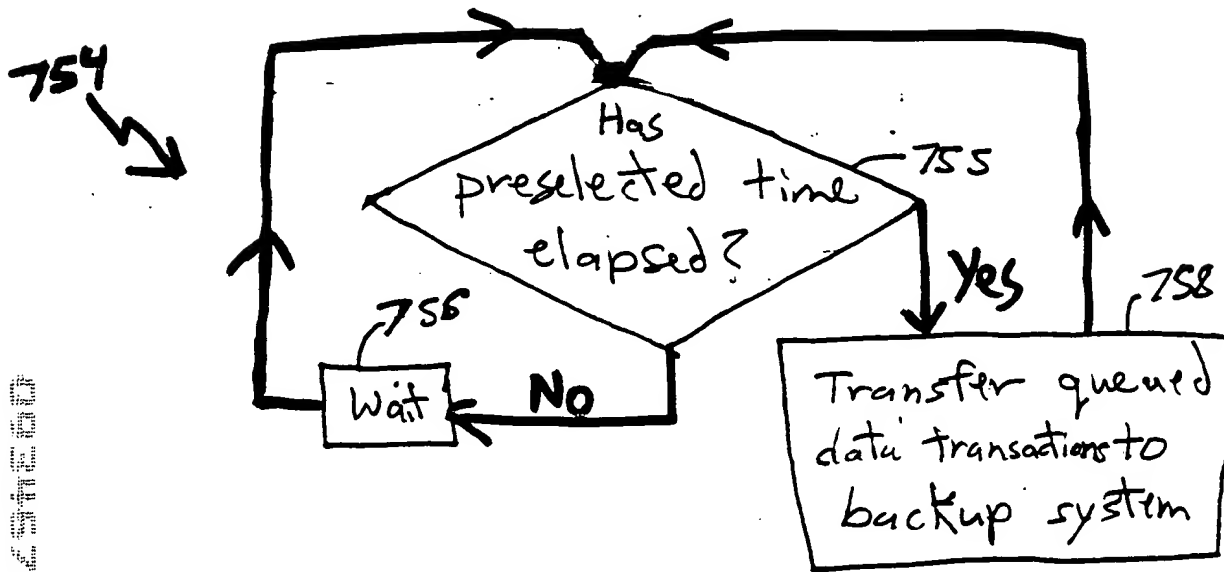


FIG. 42C

6600-0729460

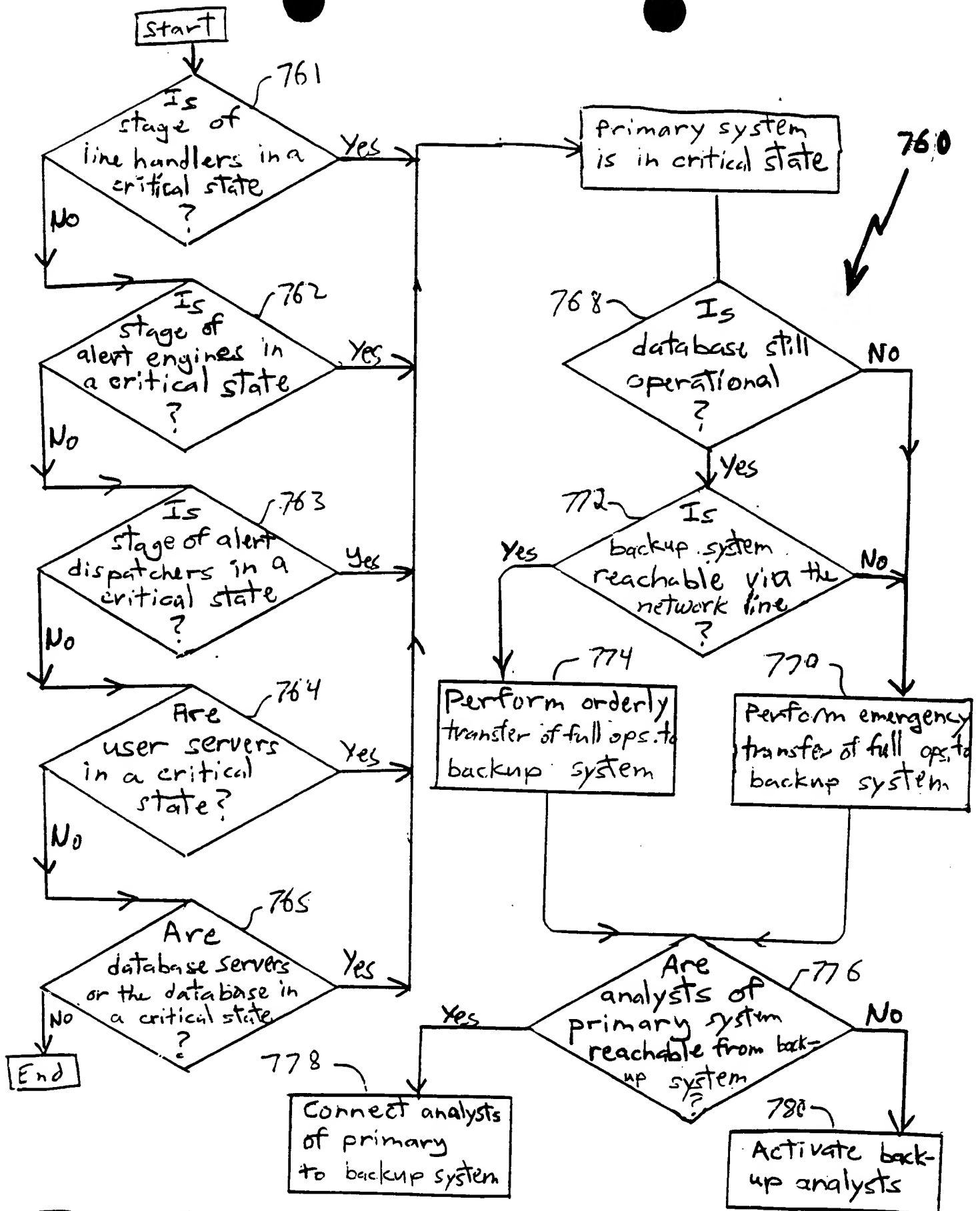


FIG. 43

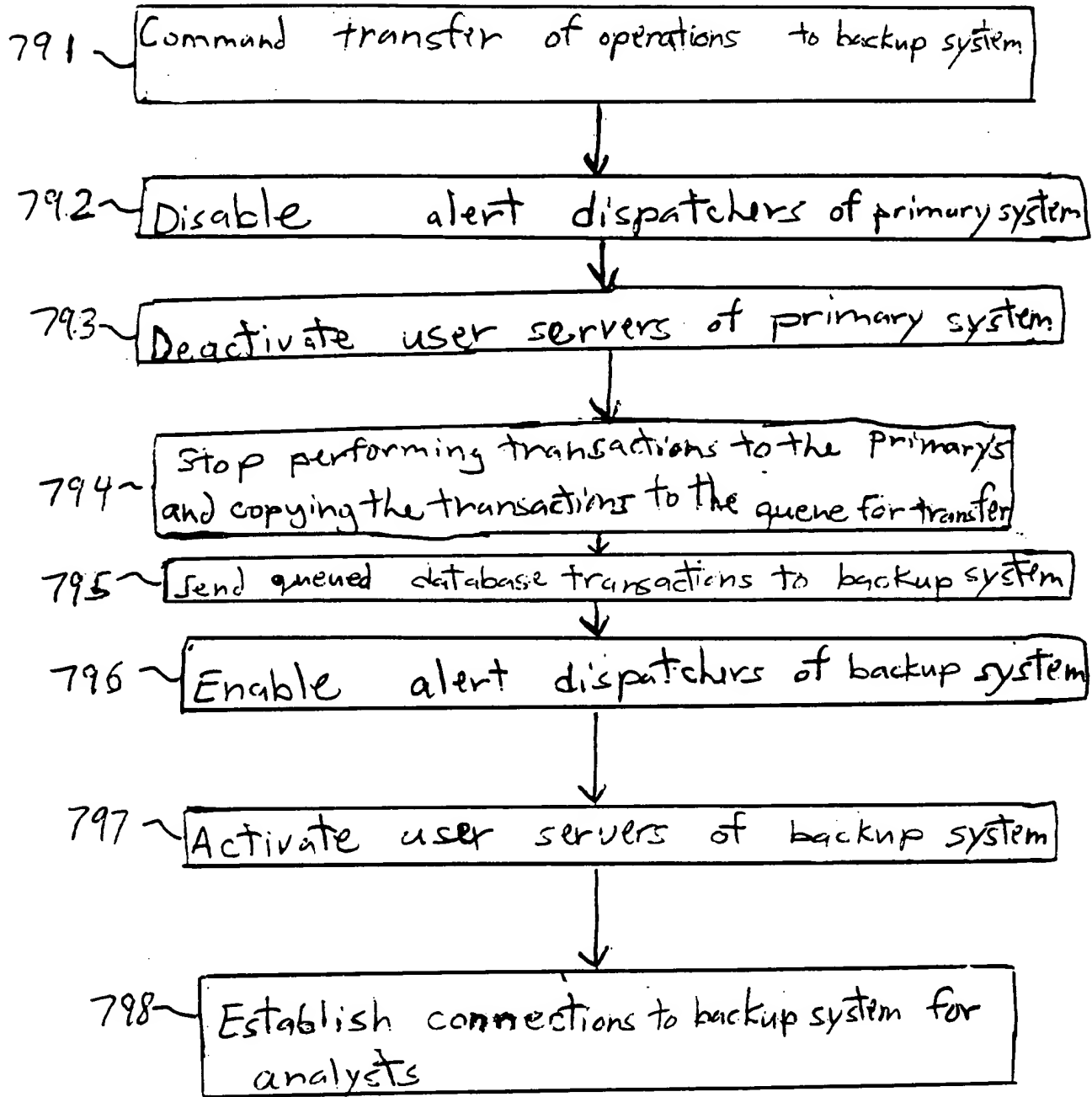
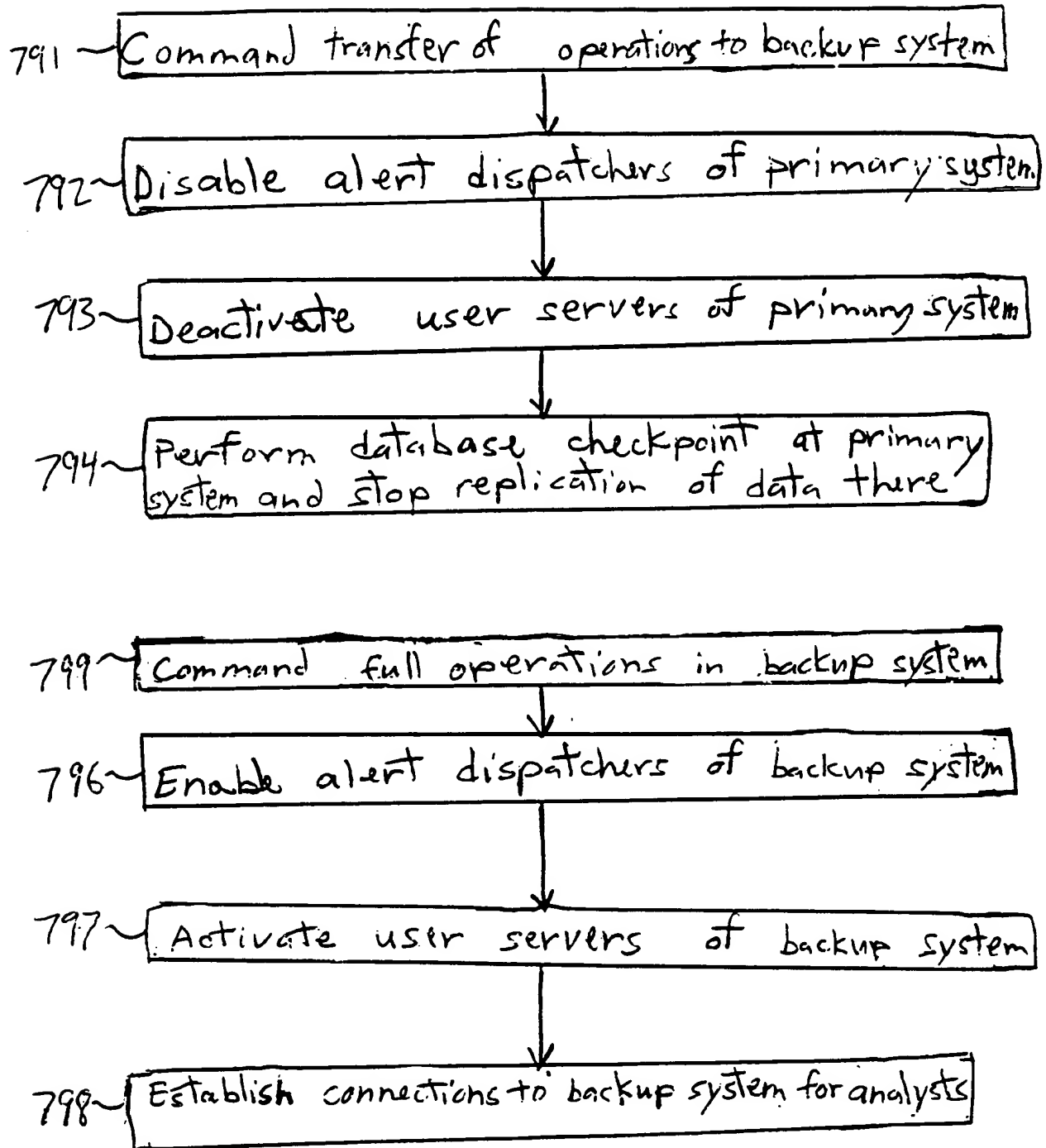


FIG. 44

790



800

FIG. 45

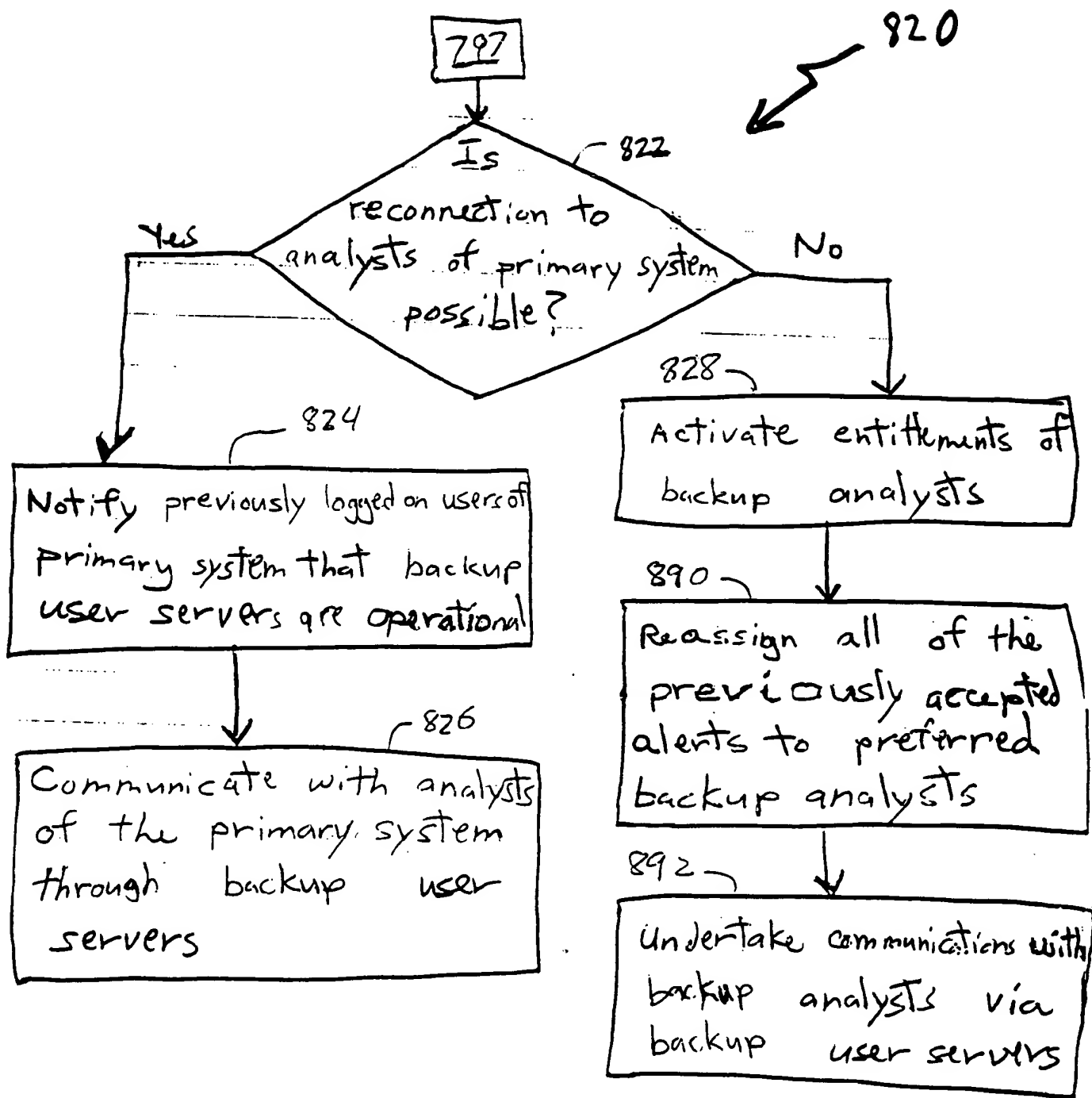


FIG. 47

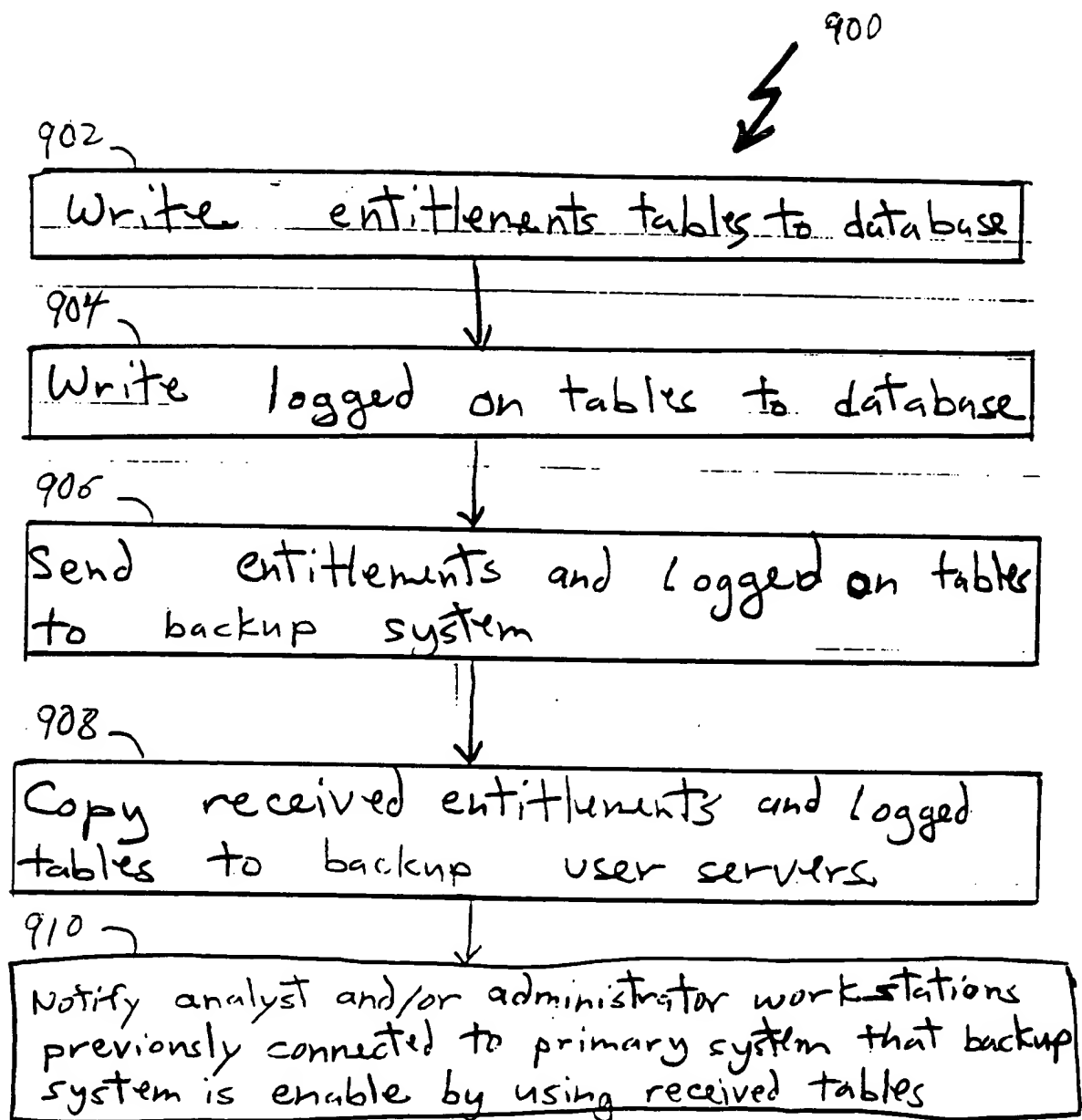


FIG. 48